



# ScuDo

Scuola di Dottorato ~ Doctoral School

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Doctoral Dissertation  
Doctoral Program in Architecture and History (31<sup>th</sup> Cycle)

# **Disposable Empties**

## Reading Economic Phenomena through Architecture

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\* \* \* \* \*

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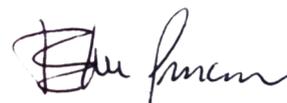
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# Summary

The cities are organisms characterized by a strong dynamism; a multitude of forces influences them. Their spatialization results in a rigid disposition due to the 'immobile' nature of their constituent elements. The research explicitly deals with this dichotomy in which, however, dynamic phenomena rest on the city acquiring a spatial configuration, often with a firm outline.

The movement of goods and values, both in small and large scale, has the force to shape the urban form and its organization. This outcome seems even more true in our international era in which local and global dimensions have blurred boundaries and the movement of people and assets looks particularly rapid. At the same time, through the study of the stratification of signs, it is possible to gather the dynamism of the space as well as the evolution of human behaviours.

Market and design both contribute to the definition of the urban tissue, to its evolution and substance, ascribing a different value to 'quality' and 'quantity' due to their intrinsic and different sensibilities. Both disciplines confront themselves with the scarcity and uniqueness of resources looking for configurations able to satisfy the local necessities. However, each of them concentrates attention on different aspects of the same phenomenon. The work investigates possible links between real estate and urban form starting from the observation of phenomena able to clarify the incidence of economic forces into the city. Sometimes, the market's footprint seems to be even more evident in the case of 'extreme', sometimes irrational, market's behaviours.

In this regard, the Chinese context shapes up to be particularly fertile to delve into this topic. Here, the recent transition from a planned to a market economy led to a rapid economic progression to a continuous expansion of residential volume in cities and a tremendous rise in prices. However, not always the increase in the number of units is the result of direct demand. It might be part of long-term policies to face future population growth or a developer response to the increase

of the investments submarket. Vacancy, for instance, might be part of the investment's process if related to buildings that maintain value even if unoccupied. Estate goods characterized by rigid demand might also facilitate the investment process. This might be particularly true for the luxury and even more the hyper-luxury real estate assets.

The research takes advantage of two case studies located in Nanjing, a second-tier Chinese city, to examine the effects of divergences of offer, demand and "consumption" in the real estate market with particular interest on how the housing typology plays a role in this phenomenon. Both cases refer to recently established, high-end residential estates whose actual appearance suggests an irrational behaviour of the parties or, at least, a demand-supply mismatch. Moreover, both are characterized by the use of a peculiar low-rise typology, the villa, that seems to refer to new cultural paradigms. The analysis has been pursued by in loco observations and morpho-typological analysis.

The work hypothesizes that the peculiar typology of the villa is not an accidental estate choice, but moreover, a 'good' capable to 'contain' and promote the investment. Some morphological features as the absence of specific facilities, location and settlement aggregation seem to confirm the above consideration. The spatial concentration of unallocated units may describe a 'planned' vacancy, that could have different outcomes, compared to the usual one, in the city dynamics such as sub-optimization of local services and infrastructure or physical and perceptual impenetrability, making difficult a future reverse in vacancy dynamics.

*To Simone and Niccolò*

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# Preface

The Italian version of this work would have been titled “*vuoti a rendere*” in which ‘*vuoti*’ literally means ‘voids’ and ‘*a rendere*’ refers to their value. The union of the two terms results in a complex expression able to define something that, once used and given back, still has a return value.

In the specific context of reuse, this expression refers to those objects, usually made by glass or plastic, that, after being used, can be collected and given back to the vendor. Through this process, coined to encourage reuse, the user gains some money back and the overall mechanism of production and recycle is maintained virtuous. The Italian meaning appears sufficiently ample to be used as a metaphor for a broader category of products while in English, its translation shaped up to be complicated. In English ‘*a rendere*’ would be translated as ‘reusable’, but, in an architectural context, this immediately leads to thinking about retrofitting or re-functionalization.

‘Disposable’ is capable of keeping together the temporariness and availability of use but, unfortunately, not the worth implication of the objects.

Empty (i.e. void), per se, would request an entire dissertation to be deeply understood due to the extensive philosophical and architectural literature. In this case, the term refers to ‘built’ but empty real estates.

“Disposable empties” can be both considered as a cross-lens to read the work and a circular concept that connects the beginning with the end.

The work started from the observation of a void that, in this case, describes the jam of a process. This economical void produced built spaces that, in turn, can be considered as voids inside the city due to their being unused. Eventually, those voids have a value, both economical and in significance, in the process itself. This cyclic nature between architecture and economy allows doing some considerations about their relationship.

‘Reading economic phenomena through architecture’ ended up being both the challenge and the methodology of this work that takes advantage of an interdisciplinary approach to enrich the understanding of the contemporary city.

This work was born within the ‘History and Project’ Doctoral Program, Architecture and Design Department at the Polytechnic University of Turin. In particular, within the TRANSITIONAL MORPHOLOGIES Research Unit and

Laboratory directed by Professor Marco Trisciuglio, Polytechnic University of Turin, and co-directed by Professor BAO Li of Southeast University.

First and foremost, I want to thank my supervisors Professor Marco Trisciuglio and Professor Luigi Buzzacchi, for providing guidance and feedback throughout this project. Marco has been a mentor for me since my master degree, so his tolerance and patience about my frequent ‘screwing’ have lasted for many years. His ability of thinking ‘out of the box’ and keeping together distant elements, has been for me a reference point during these years. I met Luigi more recently, but the possibility to observe his approach to work had a significant impact on me. He has been not only supportive and extremely patient but, above all, a stimulus to improve.

Besides my advisors, I would like to thank Professor BAO Li and Professor Nicola Marzot for their insightful comments, but also for the questions which allowed me to clarify in various points my research.

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I’m grateful to Professor Michele Bonino and Professor LIU Jian, who helped me in the fulfilment of ERASMUS+ procedures. Thanks to this program, I had the chance to spend a semester at Tsinghua University in 2017, it has been a truly enriching experience. It also allowed me to discuss the aim of my research, in particular with Professors LONG Ying and LIANG Sisi.

My sincere thanks also goes to Lei. She supported me countless times, both in China and Italy. Over the years, she became a friend beyond a colleague. She helped me to understand better the culture and society that I knew only through books until that moment. Also, she taught me how to make *baozi* and dumplings but, above all, how much an invitation for dinner can be meaningful.

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# Between the shape and the market

The urban space is a stratification of traces (Corboz 1985) left by previous societies. In its additions, it is possible to recognize the evolution of human beings, the changes in living habits as well as the development of economic strategies. Indeed the space conserves the memories of previous uses through the modification, the changing and the juxtaposition of shapes that often are not anymore suitable due to the needs evolution.

The typo-morphological approach permits, on the one hand to highlight continuities and rifts, on the other one to trace the history of a city, in specific connection with the development models. Ultimately urban morphology focuses on the tangible results of social and economic influences (Moudon Vernez 1997), revealing the territorial operation particularly with respect to the adaptation to external forces. A relevant example can be traced in the spatial implication derived from different economical models of development. Cities describe through settlements and typological choices the changes in market strategies. In this regard, in China, the rapid urban development made evident the passage from a planned economy in favour of the open market. Nowadays Chinese cities display juxtaposed spaces: scenic areas where heritage coexists with tourism and commerce, shopping mall districts acting as city's centers, mimetic settlements in which the idea of traditional typologies is restored using the ornament while applying its basic rules, but also impervious introvert residential blocks able to influence the street's perception.

This continuous redrafting of spatial variations is the physical confirmation of the change in life habits but also the physical manifestation of the economic forces that, per se, are not visible. Values and trends acquire a shape only when they impact directly on land through prices and buildings. This economic mechanism drove to peculiar residential types and innovative architectural solutions<sup>1</sup>. In this sense, the morphological choices can also be considered as

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<sup>1</sup> in urban history there are many examples that can exemplify this relation since the medieval period shaped by narrow but long parcels due to the high prices of 'on-street' land (Caniggia and Maffei 1984), or in New York and Chicago where high land prices drove to build skyscrapers (Willis 1995).

economic decisions because they deal with scarce resources<sup>2</sup> and allocation issues. This makes evident the existence of multiple relations between morphology and economy that are often considered poles apart but result to be two sides of an argument. Undoubtedly it can be analyzed from multiples angles, but the starting point of this research is how the different urban objects are juxtaposed and put in relation to real estate decisions. The on-field observation of urban spaces represents the starting point of this work.

For this reason, the research takes advantage of an interdisciplinary approach in the belief that combining the two disciplines can expand the observed framework.

Among the multiple links connecting the urban form and real estate markets, this work is particularly interested in investigating some facts concerning the divergence of offer, demand and “consumption” in real estate market. This evidence might seem uniquely explainable through market irrationalities, but it is worth considering further explanations. To understand the above-mentioned, it is crucial to recall the dual role of the residential real estate market that can serve both as consumption, providing residential services, and investment, as portfolio asset. It is often challenging to distinguish these two functions both in economic and architectural context, but this specification might be crucial in the understanding of growth dynamics. Moreover, when there is such dissociation, the morphological characteristics seem to be less influenced by a specific demand in favour of investment characteristics.

In this regard, the Chinese context shapes up to be particularly fertile to delve into this topic. Here, the recent transition from a planned to a market economy led to a rapid economic progression with a consequent hyper-urbanization. Additionally, cities are in continuous expansion, highlighting that new economic forces are not acting uniquely on untouched lands and spaces. China is an ancient country where the footprint of the consolidated urban tissue, with its living tradition, is still rooted both in the city and in the society. If we compare the two hundred cities in the ‘70s with the seven hundred of nowadays, the growth is consistent. This juxtaposition makes visible the deviation between the new transformation and the existent context. The economic transition went along with a stable increase in salaries, wealth and purchasing power. This drove on the one hand to considerable social mobility and change in living habits but on the other to a growing unaffordability (Zou 2014) due to a general rise in prices. This seems even more true in emerging economies such as China that is also experiencing a social transition from a “traditional flat structure” (Hoffmann and Coste-Manière 2013, 92) to a status-oriented one. In this scenario, house ownership has turned into a fundamental good to personal establishment both in professional and personal life (S.-J. Wei, Zhang, and Liu 2012; Fleischer 2007). Moreover the cultural change highlights the noticeable shift in people's power to directly influence the city's dynamics through their market decisions. The possibility to decide what and where to buy gives “voice” to consumer preferences considering

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<sup>2</sup> such as land, money, materials.

their income and savings. These dynamics reinforce a sense of competition both in consumers' behaviours and in developers' strategies of branding and marketing (F. Wu 2004a; F. Wu 2010). Specifically, developers seek to create oasis that people want to live in and dream about, setting new ranges of ideologies and ambitions (Li Zhang 2012) in which the house becomes essential. The stratification of these factors creates a steady pressure on real estate markets both in consumer and investment submarkets defining real estate as a pivotal sector. Its centrality in the production of national wealth rose concern in many scholars (Glaeser 2016; Glaeser et al. 2017; Chang Liu and Xiong 2018), especially concerning potential market irrationalities such as the well-known ghost towns and districts (Woodworth and Wallace 2017).

This market exuberance might exacerbate and make more readable both the design and economic forces resulting in specific phenomena such as an estimated dysfunctional growth.

China, due to its extension and organization, cannot be considered homogeneous; for this reason, whichever analysis, moreover if based on case studies, should not be directly generalized. On the other hand, the comparison and reference to national dynamics can help in opening up localized observations.

In this regard, second-tier cities<sup>3</sup> are acquiring growing importance in defining and contributing to the overall national dynamics. Moreover, development trajectories and institutional opportunities are different from the more 'globalized' Beijing, Shanghai and Guangzhou, and this might help in discretizing the city's processes and layers. At the same time, lower-tier cities might be more exposed to overbuilding (Glaeser 2016) as a result of general exuberance while first-tier urban centers usually experience an exceed in demand<sup>4</sup>. For this reason, their analysis is acquiring importance also in the definition of specific phenomena typically related to first-tier cities (Jie Chen, Hu, and Lin 2018).

As mentioned, the framework of a residential volume that increases without a direct demand, deals with many simultaneous dynamics such as the novelty of a market, the general immaturity of the system due to the transition, the haste of build to take advantage of a general exuberance. The occurrence of 'extreme', somehow irrational, singularities connected to demand-supply imbalance makes evident the footprint of the market's mode of operation. Taking advantage of this temporary acceleration of processes, it is also possible to better close off some specific effects on the city's structure.

A better understanding of the cited development can be achieved, considering the relevance of the vacancy. In economic terms, this phenomenon is defined as the amount of unallocated units in a market. If a short-term vacancy is needed to guarantee turnover in the city, a structural vacancy may profoundly affect the city

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<sup>3</sup> Cities are divided in municipalities, directly led by central national government; it is possible to count four cities in this category defined as 1 tier. Sub provincial cities, so called second tier, are 15 but other provincial cities are enumerated in third tier administrative level (17 in total). The majority of the cities are defined as prefecture-level cities (4th tier) and country level cities (5th tier)

<sup>4</sup> in this case the city faces an under growth, certainly not growth without necessity

palimpsest and highlight possible market's irrationalities. The specific literature is abundant, making clear the complexity of the phenomenon that, despite its global character, acquires local peculiarities (Struyk 1988; Hoekstra and Vakili-Zad 2011). In the Chinese context, for instance, some specification is needed to deal with the study of this phenomenon. Indeed, as reported by Xiong and Liu (2018), the massive urbanization processes, often on empty land, can take several years to become operative. For this reason, a high vacancy rate in the initial project's phase<sup>5</sup> might be considered normal, suggesting to observe the consecutive stages to have a broader and more stable framework. Detailed reasoning is conducted by Haizhou (2015), who worked on a comparison between the Chinese and international vacancy rates. In his work, the vacancy rate is cleaned from houses under decoration, run-down houses and old houses to be demolished.

In certain periods<sup>6</sup>, the features and the forms of goods demanded by investors can be very different from those demanded by households. In China, since 2000, real estate has proven to be the major asset of investment in people's portfolios (Waxman et al. 2020), also on the wave of the continuous growth in prices. Even if any type of residential unit can be purchased as investment, there are some features that might make some dwells more favorable for the aim. Above all, the estate asset should minimize, also through its morpho-typological characteristics<sup>7</sup>, the exposition to additional<sup>8</sup> price fluctuation. Vacancy, for instance, might be part of the investment' process if related to buildings that maintain a value even if unoccupied. Estate goods characterized by rigid demand<sup>9</sup> might also facilitate the investment process. In particular, the luxury and even more the hyper-luxury markets seem to maintain a steady value during economic crisis periods (Quintavalle in Hoffmann and Coste-Manière 2013, 59). Indeed, these goods generate the consumers' desire not only in terms of emulation of people into their group (Leibenstein 1950) but also for its intrinsic social value. Luxury and high-end sub-markets can thus have, in this frame, a particular interest in the understanding of potential (seemingly) irrational events.

Considering the aforementioned reflections and research interests, the fieldwork conducted in China, specifically in the city of Nanjing, made possible the recognition of two case studies that seemed precise to improve the general understanding of the topic.

The first case is situated in the Qinhuai District, in the inner<sup>10</sup> south part of the city, while the second is located in Pukou, a suburban district at the municipality border.

Both cases refer to recently-establish<sup>11</sup>, high-end residential estates whose actual appearance suggests irrational behaviour of the parties or, at least, a

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<sup>5</sup> usually up to five years after construction

<sup>6</sup> as shifts in economic and social mechanisms, government policies

<sup>7</sup> such as maintenance costs

<sup>8</sup> investment is per se risky and subject to potential financial losses

<sup>9</sup> rigid demand implies that it remains stable regardless of changes in price

<sup>10</sup> inside the city wall

demand-supply mismatch. Moreover, both are characterized by the use of a peculiar low rise typology<sup>12</sup>, that seems to distance the previous morpho-typological evolution of the city, mainly based on ‘pure’ economic considerations<sup>13</sup>, in favour of models of expansion, far apart from the most widely used, that seems to refer to new cultural paradigms<sup>14</sup>

Despite many differences of the two case studies, such as typology, morphological aggregation, relation with the surrounding city, processes of construction, a common and distinctive fact in both settlements is the underuse of the space, which is likely to result in a sub-optimal profitability. This can certainly be balanced through the full settlement sale but, as well, by ensuring the area livability<sup>15</sup>.

However, the circumstances and dynamics that led to these unallocated spaces might be more familiar than expected considering the Chinese building and allocation processes. This seems even more accurate if we consider, as mentioned, the growing need for housing as a consequence of rural-urban migrations (Shaowei Chen and Liu 2016) and cities' expansion against the conspicuous unaffordability reported by many scholars. Moreover, besides unallocation, the cases can help in expanding the knowledge about the gap between purchase and use in the specific segment of luxury in real estate markets.

In connection with these research's interests, the first chapter seeks to define, through some relevant preliminary reflections, the boundaries of the research specifically in consideration of geographical contexts and theoretical references. Thereafter the recognition of the relevance of markets behaviours on the urban growth dynamics, the particular cases of the vacancy and the estate production in luxury markets are better defined.

The first part of the chapter deals with a possible definition of the phenomenon, taking advantage of a literature review that expresses the general dynamics of it. Emphasis is the pin on those economic works that tried to highlight the role of the space and the consequences on it. In this regard, those studies capable of spatializing the results seemed particularly appealing. The effort is not only to have the phenomenon' state of the art but also to examine the main spatial topics highlighted by scholars.

A second paragraph better outlines the multidisciplinary literature on luxury markets to highlight its compelling characters. This section also takes into consideration the need that each individual has about specific goods that specific submarkets can fill. In particular, the effort is to highlight the specific categories defining an estate good as belonging to the luxury submarket.

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<sup>11</sup> in the last five to ten years

<sup>12</sup> in comparison to Chinese contemporary trends of high rise

<sup>13</sup> such as inhabitants density/square meter, land scarcity, general unaffordability due to high price per square meter

<sup>14</sup> such as ideology and self-representation

<sup>15</sup> in term of maintenance, polish, good community atmosphere

Some specifications on Chinese markets and processes of estate production are also delineated to provide a better understanding of its general dynamics.

In the second chapter, the work provides the elements of continuity and 'deviation' in the transformation's choices of the Chinese urban tissue in the different economic seasons. Each period tries to cope with different society's ambitions and problems, adapting the shape to multiple economic factors such as scarcity, prices, goods allocation.

To pursue this purpose, this section is built around a timeline that identifies six relevant economic periods for understanding how the urban form has been influenced and arranged. Each economic period has been analyzed not only thought the changes in real estate production but also having a focus on modification in people's living habits, as part of the overall economic system. Through this analysis, the research aims to bring forth the evolution of the urban tissue. Each morphology also defines illustrative typologies that are explanatory of the change in living habits.

The third chapter describes and analyses two case studies starting from their contextualization into the Nanjing's urban transformation processes. Moreover, the spaces have been described through a typo-morphological analysis to understand which relation the space establishes with the surroundings. At the same time, the in loco observations conducted over two years at intervals of six months individuate a high percentage of unused dwellings although completely sold out.

The case studies highlight a distance between the economic and spatial understanding of the same phenomenon, highlighting a difference between 'sold' and 'used'. The hypothesis at the base of the work is that this is not the result of market irrationalities or mismatch, but instead it has to do with a demand for investment and not only for consumption in the real estate market. This consideration is supported by the spatial specificities observed both in typologies and morphologies adopted. In particular the work suggests the possibility that the villa is not an accidental choice for developers and buyers. It might be recognized as capable to better 'contain' the investment in comparison to apartments in high-rise towers. This might be possible due to specific features as the favoured relation with the surrounding context, permitting a wide range of functions, and the difficulties in subdividing a single unit, that might prevent it from future governmental policies on vacant dwells. Furthermore, low maintenance community costs, plausible due to the exiguity of internal common spaces and facilities, could make the settlement more suitable for long-term inoccupation.

In this scenario the fact that unused dwells might describe a 'planned' vacancy could bring out further observations. Such vacancy, particularly if spatially concentrated, may lead municipalities to overrate local services and public infrastructure. It might be the case of public transport, educational and health centres. Moreover it might lead to physical and perceptual impenetrability, making difficult a future reverse in vacancy. Nevertheless, abundant

manufacturing intended for long term vacancy might accidentally stoke irrationalities.

The simultaneous observation of economic indexes and spaces, in terms of use and form, bear witness to their different approaches to the same phenomenon. With extreme exemplification we might say that the economy looks for models while urban discipline studies 'deviations' between contemporary and past forms.

# Chapter 1

## Where architecture ends and economics begins

This study aims at highlighting possible relations between the way a real estate market works and its effect on urban forms. Looking together at spatial transformation phenomena and demand/offer emergence in the real estate market might bear witness to reciprocal (dys)functional attitudes.

The well-known Welfare Theorems at the core of any institutional economic analysis suggest that the ideal conditions for efficiently allocating resources in an economic system would be a competitive market in which prices 'fully reflects' all of the available information (prices are then said to be 'sufficient statistics'). In such an 'efficient' framework, market prices coordinate consumers, investors and firms in their decisions (Malkiel and Fama 1970). As it is possible to imagine, this type of market is extremely difficult to be found in the real world due to 'market failures' (e.g., incomplete and asymmetric information, externalities, market power). Market inefficiencies are widely diffused in the real estate industry where, by definition, trades concern unstandardized and complex goods. If we refer to houses, but the concept also works with other building's functions, we speak about an extremely differentiated good, with variable durability, normally producing a complex bundle of externalities (OSullivan 2012). A supplementary consideration concerns the effectiveness of 'property rights' that are not necessarily associated with rights to freely modify buildings because of overall norms.

Focusing on the demand side in the real estate market, it is essential to recall the dual role of the traded good which can serve both as a (durable) consumption good and an investment asset. Indeed, housing satisfies a consumption need when generating (hospitality) services for households, but, at the same time, it can serve as an investment asset given its patrimonial value (Arrondel 2001). This changing nature of housing adds further complexity to the analysis of the equilibrium of a real estate market. The producers actually face a dual demand, investors and

consumers, only partially correlated, whose composition changes in the long, but often even in the short run.

This, first of all, implies the adaptation of the models commonly used to understand how the market clears (Bing Zhang 2008). Even if both consumers and investors look at real estate goods considering their whole lifecycle, consumers decisions are based on smooth streams of consumption over time (Ando and Modigliani 1963), while investors demand is much more erratic and is formed even considering the dynamics of financial and commodity markets. Moreover, and most important in the analysis of this work, the features and the forms of goods demanded from investor can be very different from those demanded by households.

Scholars can hardly disentangle investment demand from consumption demand, and their impact on price formation. On the other hand, considering and understanding the composition of real estate demand can greatly help to analyse the relationship between market demand, production decisions and the evolution of urban forms.

What we observe in the space, and in particular in the urban structure, is the footprint of the outcome of market relations in the real estate market. If markets generate a 'spatial order' through prices (Bertaud 2018), inefficient prices (and consequently inefficient trades) might result in dysfunctional spaces. Evidence of market inefficiency can be recognised in situations in which the city expands outside the usual demand-supply reasoning. Over-building is not, *per se*, problematic because it might be part of an overall plan for future needs<sup>16</sup>. On the other hand urbanization can be defined as speculative when it refers to the construction of buildings, infrastructures, settlements due to a political or economic purpose and not to address the actual needs of the market in terms of demand. In particular scenarios we might recognize a gradual shift from urbanization as an answer to the growth necessities to a driver of the economic growth. For many countries, both in established and emerging economies, construction is not only a powerful political instrument but moreover the anchor sector of economic capitals production. This is possible and even reinforced by the intrinsic nature of houses. Dwells are certainly consumer goods but can also be used, and built, as an investment. In this latter scenario, the supply might outdistance the demand not only in quantitative but also in qualitative terms. In a profit maximization perspective, developers might prefer specific market's segments, such as high-end residences, instead of commodity and affordable housing. This attitude might strengthen the demand-supply gap.

The occurrence of such 'extreme', somehow irrational, singularities makes evident the footprint of the market's mode of operation. Taking advantage of this temporary acceleration of processes, it is also possible to better close off some specific effects. Anyhow, indicators might help in observing the trend of a

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<sup>16</sup> It is also important to consider that built in un-built areas have a number of advantages such as lower land price and construction cost. This might lead to an over-production with the idea to sell in the future.

contemporary market. Above many, vacancy rate seems to have a physical return on the city' structure and organization.

## 1.1 Vacancy: an index of extreme behaviours

The Vacancy is an economic phenomenon that considers the amount of unallocated units inside a certain market, in a specific period. With the term “units” we refer to all unit types: residential, commercial and industrial as well. Actually, it expresses just a dis-equilibrium between supply and demand but has a telling influence on rent and trade prices. Investors, to better understand the health condition of the market, often use the vacancy as an index. A high unallocation rate, might describe an overheated market potentially characterized by irrational oversupply that may lead to bubble events. This might be particularly true in emerging markets with transitional or young economies. Moreover vacancy can be considered both an indicator of potential irrationalities and a ‘visible’ consequence of specific dynamics.

Even if the general definition of vacancy is shared and a 'minimal' amount of vacancy is physiological, it is crucial to consider the complexity of involved issues. Moreover, in different real estate sectors, we might need to apply some changes in terms of 'normal' percentage. Indeed for the commercial and industrial use considering a space active or inactive might be easier if compared to the residential sector, this not only due to the size of the sector itself but also because of physical<sup>17</sup> and cultural issues<sup>18</sup>.

The topic attracted the interest of scholars since the '60 when Frank S. Kristof (1965) applied the concept, which nowadays we address as “Vacancy Chain” (White 1971), to the New York’s real estate urban context. In his work Kristof refers to “standard vacancies” as a necessity to guarantee to families the opportunity to adjust their living condition based on their dynamic necessities. Following the turnover chain and considering the rent market, he was able not only to better define the needs’ goal from the demand side but also to understand tendencies in house’s changes<sup>19</sup>, proposing a series of new policies for the city.

Due to this type of consideration, an extensive part of the economic literature deals with the definition of the phenomenon and its normal vacancy percentage, trying to identify the characters of a healthy market. Actually, a consistent role in shaping the vacancy theory has been fulfilled by the labor market as a field of observation. The main facets of the phenomenon, such as frictional, structural, cyclical or demand’s deficit vacancy, were coined and applied to job vacancy and only later applied to the real estate market. This line is now central also in the analysis of the real estate market (Couch and Cocks 2013). The concept of a frictional level is based upon the idea that we will never reach a saturated market due to the fact that there are always people moving from a place to another and selling/renting their dwelling. The frictional vacancy rate is obviously

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<sup>17</sup> As the fact that we can have single vacant unit inside a not vacant residential complex so recognize the presence of the phenomenon could be physically more demanding compared to the observation of a shop or factory

<sup>18</sup> House property culture

<sup>19</sup> As the need of biggest houses or smaller one compared to family and work situation

proportional to a rate of turnover of estate units. In this sense. This leads to a short-term vacancy, quite important to allow people to be dynamic related to their personal situation. This possibility of a gap between the household leaving the unit and a new buyer getting in has been deeply studied as “Natural Vacancy Rate” (NVR) as it has named in North American literature. Its definition dates back to 1974 with Smith and since then we can register an evolution in the researchers point of view with a growing attention to time and space factors (Gabriel and Nothaft 1988) getting through the process of defining a close relation between rent’s price adjustments and NVR (Rosen and Smith 1983). Subsequent researches have then focused on the ‘normal’ levels of vacancy, first liaising it with the office market (Shilling, Sirmans, and Corgel 1987). Specifically, Grenadier (1995) based his study on twenty American cities emphasizing how the phenomenon, with specific reference to equilibrium levels, should be analyzed by taking into consideration local factors rather than national ones, at which scale components like time are "insignificant in comparison". In recent years Gabriel and Nothaft (2001) found that not only incidence and duration<sup>20</sup> of the phenomenon and the NVR vary across different geographical areas, but also identified a number of factors as heterogeneity of housing stock, tenant mobility, population growth as part of the geographical variation. Decomposing vacancy rates in its components can give more information about the fluctuation of the overall indicator (Gabriel and Nothaft 2001, 124), giving us the possibility to hypothesize a connection between NVR components and external determinants. Guasch and Marshall (1985) conducted a case-study on rental apartments in Philadelphia and a comparison with national data. The aim was to verify possible correlations between differences in unit’s type<sup>21</sup> and vacancy rate, both in terms of frequency and duration. Results show higher vacancy frequency and longer duration in small units than in large ones. Moreover, frequency and duration result higher in complexes with five or more units as compared to the ones having less than five units. Also Hagen and Hansen (2010) focused on submarkets, based on apartments type and geographical subareas in Seattle, trying to verify a further relation with the natural vacancy rate. They also considered the time variable, in relation to the growth of the Web, that might lead to a decline in natural vacancy. Furthermore Miceli and Sirmans (2013), proposed a new theory of NVR, based on “*insights gained from efficiency wage models of the unemployment rate*” (24). They show a complementary determinant to the search-cost approach, by introducing a specific incentive effect on landlords, a sort of “maintenance pressure” on their rented units useful to maintain the dwelling attractive for possible future tenants.

These approaches underline the importance of the social, cultural and economic context also in relation to topics such as property, local habits, social

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<sup>20</sup> Where incidence is defined as the probability that a unit becomes vacant and duration refers to the length of time it remains unoccupied

<sup>21</sup> Difference in types refers to number of rooms per unit and overall number of units per condominiums

system, and planning dynamics. In this perspective Struyk (1988) observed that a growing number of vacant units were affecting not only the metropolitan area of cities in developed markets, but also urban and rural areas in developing counties. When vacancy is above the frictional level, a further analysis can help to understand possible operations in the housing market, and in particular public policies aimed at rebalancing the market. This seems to be even more necessary in cities or counties facing scarcity as the one observed by Struyk. His work offers a deep analysis, investigating multiple hypotheses to explain house vacancy in Jordan. One above all the presence of cultural/social peculiarities such as the possibility that many units were built for a future family use<sup>22</sup>. Additionally, a possible speculation in high-quality houses has been considered. Indeed, an overproduction in a specific segment of the market might lock it, if the need is for low-cost dwells and, moreover, forces in any case to invest resources to meet the necessity of ‘minimum standard dwells’. Analyzing the different hypothesis, the author gave also some further definition of the net vacancy rate<sup>23</sup> by introducing new indexes<sup>24</sup>. This differentiation in vacancy’s type is very important to understand the real consistency of the phenomenon and to clear the aggregate data from the physiological component of the phenomenon. In addition, a brief subdivision by house type, size, and location that leads the author to some observations about the existence of a speculative process mainly recognized in larger and most-expensive units. By the way, speculation alone cannot explain Jordan’s rates, highlighting again the complexity of the topic.

Similarly, a recent study of the Spanish case (Hoekstra and Vakili-Zad 2011) highlighted how the paradox of high vacancy indexes together with an increase in housing prices can be explained by a series of socio-economic characteristics of the system itself. The authors illustrate a similar case in Malta. Consequently, the authors also roughed out the existence of a ‘Mediterranean phenomena’ (Vakili-Zad and Hoekstra 2011).

The Mediterranean area shared a number of features that favor the rise of such a paradox. The culture of property, the history of migration from the countryside to the city, the role of the family, the strict regulation policy of renting to protect the tenant are some of those. Indeed, Mediterranean countries have a family-based society due to a low degree of de commodification (Hoekstra and Vakili-Zad 2011, 63) by the state side. Family provides a number of welfare tasks and services such as financial support to purchase a house to new couples<sup>25</sup>; house ownership is considered very important in South Europe and parents make any effort to help younger family’s components. In the Maltese case, the presence of the Catholic

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<sup>22</sup> In that period in Jordan many families were working abroad so the author assumes a future use by their children, considering also the fact that at that time the house was the first investment target due to a decadence in other goods investment opportunities

<sup>23</sup> Defined as offered units (rent or sale) divided for all units (Struyk 1988, 375)

<sup>24</sup> In particular an adjusted vacancy rate, defined as total vacancies less those being held for family members divided by all units (Struyk 1988, 375).

<sup>25</sup> Some other ‘services’ are child-care, but also care for the elderly, networking for job finding

Church is also seen as fundamental in the market dynamics due to the fact that the Church owns a large part of the national dwellings (Vakili-Zad and Hoekstra 2011, 448).

The footprint of vacancy on the city's settlement is understudied, even if the outstanding research identifies natural/frictional vacancy as a crucial issue in continuous change and in relation with cultural and social influences. Furthermore, if we face a structural vacancy problem, the legacy on the city palimpsest might affect the city's structure in many ways. In some cases, the phenomenon might be visible in its long run effects, like abandonment, but in some other cases the city might "silently" be lessening its logistic and organization, due to a wrong allocation of resources. Moreover as Remøy (2010) claims "*if the vacancy rate stays high for several years in a row, a part of the vacancy may have developed into structural vacancy*" (48). This type of vacancy can be particularly alarming because it used to drive to a parallel "house cycle" characterized by a growing unfitting condition of the dwellings. The life cycle of the building, in a structural vacancy situation, leads often to the impossibility to place it again in the market. The physical condition of these units became increasingly far from the characteristics needed, sometimes due to regulations, sometimes to typologies or general maintenance, leading to high costs of transformation or adaptation to rectify its condition.

Again Remøy (ibid.) in first instance related to the structural vacancy of Nederland's offices to an excessive supply, but to reach a more comprehensive scenario she analyzed 200 vacant offices taking into consideration not only the year of construction and some physical and typological characteristic, but also the location. The work observed a higher vacancy concentration in areas characterized by mono-functional nature.

Of course the complexity of the topic grows if we consider the global market in which we act, where "*there is an increasing need for forecasting capability to enhance decision making across a wider range of locations which creates clear methodological challenges for researchers where data and markets are at different stages of development*" (Sanderson, Farrelly, and Thoday 2006, 491). Therefore a more recent literature focused on the adjustment of the different rates in peculiar global markets. Some concepts, indeed, can be more familiar to those observed in the USA market, as NVR, but less common in other markets<sup>26</sup>.

Again Sanderson et al. (ibid.) takes into consideration the office vacancy, due to the amount of available data comparing Asian Pacific, European and North American markets by using a new methodology for calculating the NVR, finding that for some markets, mainly the emerging ones as East Europe and Asia, the methods used are not completely suitable, due to the fact that those markets still need to find their structurally stable natural vacancy, to permit a proper comparison.

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<sup>26</sup> In this sense, the USA market is well known for the higher mobility of house/office with respect to the Europeans markets.

An important part of the literature deals with the interpretation of the possible causes and effects of the phenomenon. Concerning frictional vacancy, many reasons can push people to move from a dwelling to another. Usually it deals with job opportunities, personal decision, family issues, house's redevelopment plans. Anyhow, as said, this part of the phenomenon it is not only normal, but also desirable. On the other hand, a different concern grows around long term vacancies, also defined as "problematic vacancies" by Fielder & Smith (cited in Couch and Cocks 2013, 503), due to their consequences on the city, both in terms of policies and urban results. Couch and Cocks (2013) studied the phenomenon in relation to the 'shrinkage' of cities. Liverpool was chosen as preferential point of observation because of recent depopulation derived from the industrial system contraction. This caused the migration of many inhabitants who dropped their houses. Anyhow, the authors concluded that a causal relation between depopulation and vacancy *per se* is weak. The relation becomes robust if considered in association with other factors as location, tenure, price and local policies. On the other hand, Glaeser et al. (2005) described a tight link between housing stock and population taking as a case study Unites States but they found a little variation in vacancy rates if relates to shrinking or growing cities (6). The role of depopulation has interesting connections for the design of policies by Local administration aimed at reducing the vacancy rates. The case of Leipzig (Power, Ploger, and Winkler 2010, 107-130; Power and Herden 2016) after the socialist period<sup>27</sup> is quite interesting because it associates a process of significant suburbanization with a gradual depopulation. In 2000, in conjunction with an overall program, a considerable part of vacant dwellings has been demolished.

Other scholars observed that vacancy can sometimes cause deterioration and abandonment of certain parts of the city, possibly leading to an escalation process (Keenan, Lowe, and Spencer 1999). Both in high and low property neighborhood in Cuyahoga Country, Ohio, vacancy, in conjunction with delinquency, led to a stark decrease of prices (Whitaker and Fitzpatrick 2013).

Anyhow, often causes and effects of vacancy cannot be distinguished. This might be the case of neighborhood dissatisfaction in presence of "over supply" (Burrows and Rhodes 1998). In this case, a high number of vacant houses gives the households the possibility to have a wider range of choices. In this situation those factors <sup>28</sup> that made a specific neighborhood more attractive, compared to others, become even more influential than normal. Mumford and Power (1999) come to a similar conclusion considering empty dwelling able to generate negative social impact including depopulation, school abandonment, and ultimately loss in general confidence of a specific area.

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<sup>27</sup> Leipzig was located in the East Germany before the reunification. In the Eastern Germany e sprawl phenomenon was almost negligible until the 1990; after the reunification a Western model of land planning was applied also in Eastern Germany. This created a fertile situation for Western investors who built new decentralized settlements with almost no relation with the inner city.

<sup>28</sup> As crime, poor leisure facilities, presence of vandalism, problems with dogs, rubbish in the streets

A work of the SERC Institute (Cheshire, Hilber, and Koster 2015) has recently identified restrictions in the use of land as possible causes of greater vacancy, that suggest the overcoming of the "Opportunity cost effect" model that is the "mismatch effect", where supply and demand seem to be unable to meet. Vacancy can also occur after a foreclosure procedure driving to an increase in crime rates (Cui and Walsh 2015).

Anyhow, in some cases, vacancy might be part of the process of investment due to the nature of buildings that, as said, can maintain its value also if unoccupied. This can be particularly relevant in markets characterized by rigidity on the demand side, so consumers are reluctant to renounce a good. Luxury and high-end sub-markets can have, in this frame, a particular interest in the phenomenology of irrational events.

## 1.2 Luxury: a submarket with rigid demand

The definition of what a luxury good is straddles more than one academic discipline: economics, philosophy, history, anthropology as well as politics. Veblen's work (Veblen 2007) on leisure-class theory, a pivotal work dated 1899 about the American socio-economical "conspicuous consumption" tendency and dynamic already highlights it. Also, for the multidisciplinary background of the author, the study already takes advantage of various disciplines<sup>29</sup> to conduct its observations. When Sekora (cited in Tynan, McKechnie, and Chhuon 2010, 1157) defined luxury as "anything unneeded", the definition of what is a need, or a desire set in a wider historical recognition (Berry 1994). Even if luxury has obviously to do with income and wealth, Dubois et al. (1993) demonstrated that they cannot be considered as unique factors: culture, referring to the meaning of the good, is also quite a fundamental mode of access to luxury goods. The studies around luxury goods are increasingly complex if we consider the co-creation of value that, according to Tyan et al. (2010), depends on both firms and customers. Above all, this co-creation requested an effort in typifying the multiplicity of values around the product (ibid.). Again, we face a problem of definition because what is a luxury good partially depends on the person giving the definition, e.g. people who can "effort less" might define as "luxury" a wide range of goods.

The economic literature on luxury goods is part of the consumer demand theory, Leibenstein (1950) was one of the first scholars to move a step in the direction of expanding such theory to include what he defined as "*the desire of some consumers to be "in style", the attempts by others to attain exclusiveness*" (183). The author, differently from coeval studies, takes in account the consumers' motivation, specifically the desire to emulate others in their group, which he defined as "bandwagon" effect, and seek for exclusiveness so-called 'snob' effect, implying that demand falls when the number of buyers increases<sup>30</sup>. As a consequence, the empirical approach individuates luxury goods as those goods "*for which demand rises either in proportion with income or in greater proportion than income*" (Tynan, McKechnie, and Chhuon 2010, 1157).

In terms of a possible definition, it might be more productive to recognize some characteristics of luxury goods and try to understand which are valid for other markets such as real estate.

As said, exclusivity is certainly an important feature. Authenticity, as well, seems to have a fundamental role in its wider acceptance of distinctiveness. Innovation, craftsmanship, product excellence, i.e. quality (Garfein 1989), are additional features. Obviously, the high price is a consequence of these values. But the prior characteristic of a luxury good is its intrinsic social status.

A luxury object refers to an elite, giving its owner the possibility to be part of that reference group (ibid.). At least this is the idea people developed in the latter part of the 20th century that has seen an explosion in this market. At the same

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<sup>29</sup> Such as anthropology and ethnography

<sup>30</sup> Snobs want to be different so do not accept to have mass products

time, the traditional concept of pure luxury become blurred leaving the space for the development of a more democratized approach (Hoffmann and Coste-Manière 2013, 90) creating the so-called *masstige*<sup>31</sup>. In this specific submarket the uniqueness and extraordinariness of a good, basic characteristics of luxury products, are not fundamental feature to build an interest on the product. In contrast, its nature of high-end asset seems to have growing appeal if used by a specific group of people. This delineate the belonging to a class as the primary desire to please. The acceleration and expansion of the luxury markets are largely tied with the globalization process. Certainly, globalized forces opened up the market of luxury brands changing, as well, the client's characteristics. Emerging markets like Brazil, India, and China shows a younger clientele if compared to "traditional luxury clientele" (1). Moreover, new 'emerging clients' seems to rise quickly their standards in term of service and novelty of products. Besides, they want to live "luxury experiences" (ibid.) raising the level of innovation that the luxury company must address to maintain its clientele. Moreover, this market seems to experience a shift from product-focused to the consumer-focused, defining brand-management as a key role discipline.

The uniqueness of a certain good is defined by the combination of three elements: price, scarcity, or rarity as argued by Catry (2003), market/cultural value. The latest are anyhow the primary concern. This mix of features becomes difficult to match if we refer to bespoke goods.

Luxury, but specifically hyper-luxury, is a market that remains steady despite economic crisis as Quintavalle highlight (in Hoffmann and Coste-Manière 2013, 59). The investment strategy seems to work better in certain global hotspots, made available through global markets, defined as prime locations<sup>32</sup> (Cvijanovic and Spaenjers 2015). This can be particularly interesting in the case of the real estate market that, due to its immobility, might be used as a long-term investment. Moreover, if we consider that "*real estate is one of the major assets in investment portfolios*" (Hui, Ng, and Lau 2011, 781) speculation in a certain city, moreover in luxury market, can drive the growth in residential prices (ibid.). Besides investment's transactions by non-residents can fill a specific area of the city considered "prime". Non-residents indeed, maybe due to a scarce knowledge of that market and less negotiation power, results to conclude higher transactions if compared to a resident, creating an imbalance in prices (Cvijanovic and Spaenjers 2015).

In this specific sector of real estate, the above characteristics acquire slightly different shades. Limited supply, quality not only in materials but also in aesthetics<sup>33</sup> (Pow 2009), technological innovation both in terms of security and

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<sup>31</sup> Crasis of mass and prestige, meaning the collaboration between luxury brands and mass brands to address the interest of the mass market for exclusive products. It is quite used in the fashion industry. Might also be called co-branding. It guarantees to luxury brands a window to catch a wider market and have more visibility

<sup>32</sup> Usually global cities such as London and Paris

<sup>33</sup> That is anyhow a personal parameter if we consider the possibility of bespoke building and might also describe a change in social values

interiors, price is some of the most portray. In case of luxury gated communities (Glasze, Webster, and Frantz 2006) additional features to delineate the high-end profile might be internal and proximal services and amenities (Giroir 2006).

Gyourko et al. (2006) also addressed the topic concerning the overall urban structure arising the concept of ‘superstar city’. Cities attributable to this category are described as metropolitan areas and towns in which not only the demand exceeds supply but moreover the spatial growth in terms of expansion, due to geographical or legislative issues, and density is limited. In these areas, characterized by scarcity, residents are willing to spend extra money to buy propriety, very often outbidding the selling price and rising the average city’s price, due to the few close substitute locations (ibid.). The price in these cities do not rise thanks to an improvement of the city itself or its amenities but only thanks to a growing number of families willing to pay more. Gyourko et al. (ibid.) concentrated their analysis on the US cities in a period of fifty years.

Recently, Chen et al. (2018) recognized some superstar city into Chinese context. Here, the authors highlight a rising housing unaffordability flank to growing prices and PIR (price income ratio) in the main four cities<sup>34</sup>. Simultaneously those cities were often peculiar case studies to describe and explain the growing market of luxury and hyper luxury residences in China (Giroir 2011; Giroir 2006; Glasze, Webster, and Frantz 2006; F. Wu 2004a).

The rise of regeneration projects and retrofitting whose target was high-end housing in the Czech Republic was conducted by Cook (2010) rough out an interesting link between post-socialist cities and the rise of luxury markets. The relation was reinforced by the studies conducted by Hirt (2012).

In real estate, as in movable items market, the democratization of luxury had double feedback. If on one side a growing number of people were able to buy more expensive proprieties, on the other side the market split again in ‘ordinary’ luxury market and ‘hyper-luxury’ one, probably to avoid snob effect. Anyhow as Giroir (2011, 455) claims “*There is no unit of measurement to identify with certainty what distinguishes the ultra-luxury to the rest of the luxury sector*”. This seems to be even more true in contexts such as the Chinese one where construction costs and quality of the construction don’t strongly diverge from commodity construction<sup>35</sup>. The phenomenon of hyper-rich seems to be particularly dramatic in transition economies in which the physical shape of the city is even more influenced, due to the inexperience of the markets.

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<sup>34</sup> Beijing, Shanghai, Guangzhou, and Shenzhen

<sup>35</sup> Surely there is a difference in profit by the developer side, but this does not directly influence the quality

### 1.3 Specificities of the Chinese real estate market

Real estate is a pivotal sector in the Chinese economy and its financial system. Investment in this branch steadily grew in the last two decades, reaching 16.4 percent in 2017, while accounted for 4 percent in 1997 (Chang Liu and Xiong 2018). The residential submarket, in particular, experienced tremendous demand growth since the reforms started in the 1990s, and it might be related to different factors. First of all, the abolishment of the welfare housing system encouraged people in the direction of full ownership and, on the other hand, pushed developers into the scenario of new intense construction. Moreover, the recent “detachment to the soil”<sup>36</sup> has led to a consistent rural-urban migration (Kevin Honglin Zhang and Song 2003; Y. Zhu 2007; Xing and Zhang 2017) and a consequent higher request for housing. Also, the constant demographic growth goes in the same direction. Nowadays, the soil has been turned up shifting from a site of production to a production site mainly devoted to enlarging cities and relocate part of it. Urbanization is now central “both demographically and ideologically” (Visser 2010). For this reason, but considering the continuous rise in prices as well, the Chinese situation has been described as risky by many scholars (see Glaeser 2016), Barth:2012), mainly claiming potential irrationalities<sup>37</sup>. To evaluate these situations, the vacancy rate seems to be recognized as an efficient indicator.

Despite the growing demand for housing and the long-term predictions that highlight a continuous expansion in cities and the number of inhabitants, China has experienced high vacancy rates. However, there is no consensus about empirical measures. A report by China’s SouthWeastern University of Finance and Economics reports 20.9 percent of unoccupied units in 2011 (cited in Somerville, Wang, and Yang 2020), and 22.4 percent in 2013 (cited in Kaiji Chen and Wen 2014). Shepard (2015, 56) also reported 22 percent based on Credit Suisse data and yearly reports, such as Merrill Lynch and Asia Pacific (Colin and Institute 2017; 2016). Haizhou (2015), on the other hand, worked on a comparison between Chinese and international vacancy rates trying to understand if the national level were alarming. In his analysis the broad index, estimated around 18 percent, was flank to ‘narrow’ vacancy<sup>38</sup>. Notwithstanding this specification, 13 percent of unoccupied dwells are reported. According to the author, in China, a vacancy rate of 7 to 12 percent should be ‘reasonable’ while 12 to 17 percent might be considered alarming.

It is also interesting to notice that a high vacancy rate has been crosswise detected in all residential submarkets. Chen et al. (2013) recently analyzed the

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<sup>36</sup> In contrast to the “attachment to the soil” that was materialized in 90% of the rural population and perfectly represented Mao’s mandate of the countryside, encircles the cities.

<sup>37</sup> Such as speculative bubbles

<sup>38</sup> Cleaned by houses under decoration, run-down houses and old houses to be demolished

vacancy levels in public rental housing<sup>39</sup>, finding 70 to 90 percent of unoccupied dwellings. Xin (2011) mentioned a growing vacancy rate in the luxury market, probably due to the increasing supply in this sector.

China rose concern about its vacancy levels, especially in the last decade when the index emerges in a phenomenon with specific characteristics such as high spatial concentration. Certainly the physical representation of the phenomenon helps to realize the large scale results in perspective. This is the case of ghost cities and districts that received high interest by worldwide media<sup>40</sup> and scholars.

Ghost cities “*are a media invention*” (Woodworth and Wallace 2017), but economically speaking, there are unallocated units in a concentrated portion of land and time. Even if there is still not a univocally accepted definition, Woodworth and Wallace (ibid.) tried to sum some criteria useful to highlight the main features of the phenomenon. The advent of big data gives further possible ways to detect this, and many others, phenomena. Jin et al. (2017), but also Guanghua et al. (2015) using Baidu POI, took advantage of multiple sources as road network<sup>41</sup>, points of interest (POI), human activity density data and night-time light images in order to identify ghost districts and understand their actual consistency. The work by Shepard (2015) indeed reduced the negative pressure around Chinese ghost cities by its on-field researches and interviews. He highlighted several cultural and social specificities of the construction and proprieties dynamics.

On the other hand, not all concentrated vacancies result in “ghost” independent settlements. For this reason it is essential to understand all the dynamics that might encourage overbuilding<sup>42</sup> and lead to unused spaces. The existence of such a phenomenon can be strictly connected to the peculiar characteristics of the Chinese urbanization and land administration system.

As noted by Liu and Xiong (2018) massive urbanization processes such as the ones experienced by China are naturally characterized by high vacancy. This might be particularly true in the first construction phases since the majority of the new districts are built on empty suburban land. A typical development starts with a master plan outlined by the local government to attract developers who want to buy the land and build residences and commercial proprieties. At the same time local municipalities set up the main infrastructures to connect the new area to the existing city. This phase might take from 1 to 5 years. Meanwhile buyers start to acquire houses. This is a characteristic of the Chinese system in which the majority of the residential transactions take place in the early stages of the construction when prices are relatively low. Some 80 per cent of new apartments

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<sup>39</sup> Directly implemented by the “government developer” with government subsidy building new settlements or renewing old second-hand ones

<sup>40</sup> Probably exacerbated by the recent images from American and Spanish bubbles burst

<sup>41</sup> directly provided by a navigation company

<sup>42</sup> that is not problematic *per se* but only when it is done with speculative purpose

sold in China are contracted a year or two before their construction is complete (Shepard 2015). This result, often, in whole new settlements fully sold out but completely uninhabited. Another important issue is that even when construction and facilities are completed, individual flats are not habitable at all. It is typical in China to buy rough dwells, without any interior, lining or water heating supply system. The finishes are therefore to be borne by the buyer itself after the construction part is over. This leads to an additional "delay" that creates a discrepancy between the completed and the habitable. In the second phase that goes from the 6th to the 10th year, the occupancy rate gradually grows. Fully occupancy might be reached in a third phase, after 10 years, when also the majority of the facilities such as urban transport, shopping malls, hospitals, restaurants actually operates. The vacancy rate analyzed over the second and third phases can be considered plausible.

Understand the role of land policies in the process of housing development is crucial. Differently from other countries, the volume of land available for construction is decided by government sales at the local level. This might create a disordered supply (Chivakul et al. 2015) since municipalities strongly reliance on land sales to finance themselves and local infrastructure projects. This is possible because the land is owned by the State and managed by the local municipalities that act as local monopolies in terms of land supply (Chang Liu and Xiong 2018, 15). In this sense the real estate market is intensely tied to local government policies. Actually, land transaction does not imply the full ownership by the developer, but only a time-limited<sup>43</sup> "land usage right". After the lease period it is presumed that the owner will be able to renew the agreement, possibly at a fee, but none of this is formally stated (Glaeser et al. 2017). A significant change in land importance can be traced back to 1994 when the tax sharing reform changed the previous "fiscal contracting system" (Chang Liu and Xiong 2018) into a new system in which a great portion of local revenues was collected by the central government. According to some scholars such as Han and Kung (2015) this might have encouraged the local administrations to move from industrial growth and incentive to the construction sector. The subsequent Budget Law (1995) further curb their sphere of action. Since then local municipalities cannot obtain external financing and run budgetary deficit. This established even more attention on land sales and might incentivise over develop too. On the other hand, land sales are subject to quota constraint both to protect agricultural production at the national level and discipline local real estate markets. All these considerations might lead to haste in construction by the developer side, who have to take advantage of purchase possibilities. This hypothesis might be confirmed by Woodworth and Wallace (2017) who claim "*The rapid pace of construction is designed to maximize city leaders' immediate benefits from the economic growth generated by construction and the additional fiscal income obtainable by putting huge parcels of cheaply acquired peri-urban rural land onto primary urban land markets*" this due to the officials' short term office in a single location. In this direction

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<sup>43</sup> 70 years for residential activities, 40 for commercial and 30 for industrial

developers might feel a big pressure to build fast and considering the wider return opportunity even without having a specific target. At this regard the growing branding (F. Wu 2010) that developers put in act might fill the gap, influencing the market with new ‘tastes’ and residential ideologies.

The balance, or imbalance, between demand and supply might also be an essential part of the urbanization process. Indeed, oversupply has been described as a long-term policy (Kroeber 2016) to face future migrations and demographic growth. This is undoubtedly true but seems not to consider the fact that the majority of the inhabitant’s increase will come from a migrant population, mainly from rural areas (Kevin Honglin Zhang and SONG 2003; Y. Zhu 2007; Xing and Zhang 2017), so they will probably have a limited purchase power, even lower than public housing rentals . This seems to be supported by the analysis conducted by Chen et al. (2013) that suggests a mismatch between target necessities, mainly in terms of location and prices but also in terms of Government’s limits to the application prerequisite. As Song (2014) explains that the origin of a person, in China, it is far to be irrelevant in economic transactions. As Zhang et al. (2016) highlight inequalities are considerable in the Chinese context and vacancy problems connected to misallocation might further exacerbate it. Moreover the lack of access to the credit market experienced by part of the population might make hard to purchase a house, even if affordable submarket. Even if the need for affordable housing is well-known, developers mainly built commodity and high-end settlements due to the higher profit<sup>44</sup>. The fact that the people’s need is not taken into consideration could indicate ongoing speculation. We should also note that, even if first-tier cities are still more attractive in terms of opportunities and potential earnings, they are also the markets with highest prices, further increasing the abovementioned gap. The mismatch might also be traced in the high-end real estate market that in China is experiencing democratization to respond to the development of the new middle class. This may push rich niches of buyers to embrace the ‘snob effect’ (Leibenstein 1950) switching to a hyper-luxury segment and increasing the gap between built and purchased.

Investments, as well, might perform an essential role in the understanding of growing un-allocation rates in the Chinese context. Housing assets accounted for 66% of household wealth in 2016 (Chang Liu and Xiong 2018, 15) defining dwells demand as a key element. At the same time China experienced a tremendous rise in prices from the 2000’s. The residential prices across the 35 major cities grew to a 9.29 percent average annual rate. It reached 15,6 percent in top the 90 percentile cities in 2002 and 18.7 percent annual rate between 2006 and 2013 (Y. Cao, Chen, and Zhang 2018). Certainly the housing privatization reform in 1998 released a huge consumption demand in the new commodity submarket. However real estate can play both a consumption and investment role. This might be even more accurate in context, like China, in which investment assets are few. The Central Government, for instance, imposes capital control to prevent

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<sup>44</sup> On affordable housing profit is about 3 percent (Mak, Choy, and Ho 2007), quite low in comparison to the variable return in the commodity sector

investment in global financial markets (Chang Liu and Xiong 2018). Cao et al. (2018) but also Huang and Yi (2011) noted that investment demand might be the missing factor to explain the residential price growth<sup>45</sup>. This may also partially explain the paradox of high vacancy rates and high prices<sup>46</sup>. The investment option seems to be particularly relevant for those families with loose financial constraints. Again Cao et al. (2018) showed that the household prefers to have multiple residential properties when expecting higher capital gains. In contrast, in front of owning constraints<sup>47</sup> investors prefer larger primary residences instead of multiple units. The breakneck economic growth of the last 20-40 years creates many expectations for continuous income growth. This creates a positive perception, on the one hand, on the high prices that are evaluated as more affordable and on the other about future profits. As reported by Somerville et al. (2020) up to 30 percent of new apartments might be purchased as pure store of wealth, with consequent inoccupation of dwells. Huang and Yi (2011) speculated that, nowadays, it is the middle class to drive the second home<sup>48</sup> submarket. Chinese luxury consumers<sup>49</sup> will probably reach 180million in 2020, with a majority of young<sup>50</sup> clients. Moreover, this wealth is spreading from I tier cities to II, and sometimes III, tier cities giving the phenomenon an extensive range. Luxury goods are able to express the success of the owner and this is what drives the desire to own more and more properties to represent themselves. This is even more important in a society shaped for a long time in a “*traditional flat structure*” (Hoffmann and Coste-Manière 2013 92). Furthermore, China is experiencing an ever-rise number of *Bao Fu He* (rich in a short period) middle-class and the request for luxury goods grows hand in hand (Goldman Sachs’ prediction). This highlights the fact that, differently from common sense, investors are not only professionals but also ‘normal’ people who see in real estate a long run profit, extending the reach of the investment phenomenon.

A crash in the real estate sector would damage the economy both at the central and at the local administrations level. Precisely because this sector is considered “too important to fail” the central government carried out important constraint policies to prevent overheat and high vacancy rates. A possible strategy to minimize the vacancy problem has been applied since the ’90. Unsold commodity houses were auditioned off or sold as affordable to recover from high interest borne by developers (Mak, Choy, and Ho 2007), this is possible because, nowadays, there is not a substantial difference in quality among the different submarkets (Quan Chen et al. 2013). On the financial point of view, increasing down payment for the purchase of a second residential property is a recent policy applied. This measure must protect banks from a prospective default of

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<sup>45</sup> they specifically refer to 2002-2008 range

<sup>46</sup> similar to the Spanish paradox (Hoekstra and Vakili-Zad 2011)

<sup>47</sup> Such as governmental policies at the national or local level

<sup>48</sup> I here use ‘second home’ as additional dwells owned by tenant who currently does not live there

<sup>49</sup> In terms of general goods nonspecifically reals estate

<sup>50</sup> Under 50 years old

mortgages. Mortgage policies require a minimum 30-40 percent down payment in the case of first financing, but it rises up to 60 percent in case of second purchase and full upfront from successive ones. Additionally, if a multiple homeowner wants to resell a property he has to pay an additional 20 percent property tax (Shepard 2015, 180-1). Anyhow the implementation of these policies might vary by a single jurisdiction. *“For example, the government will continue its more lax policies for cities, such as Dalian, Shenyang, Kunming, and Xi’an, where housing inventory is still high. In contrast, the central government is already acting to rein in the heated housing market in cities like Xiamen and Nanjing, where the minimum downpayment requirement has been raised to 30 percent for first-time homebuyers from the previous 20 percent”* (Rhee 2016, 52). This heterogeneous financial requisites might also influence the variance of investment flows among cities. The number of properties per single buyer is also restricted, with different thresholds depending on the jurisdiction. This somehow socially influences the young generation that, in the name of investments, decides not to get married (Shepard 2015) or even get a divorce (work field).

All these considerations land, with a variety of ‘signs’, on the Chinese city’ settlement that is characterized by an ancient and consolidated urban form.

## Chapter 2

### The Chinese City as a process

The city can be considered the result of different additions (Secchi 2000), modifications and corrections led by single actions as well as by large scale projects. We can contemplate the territory as an archive of the history of human civilisation in a given place or, more widely, as a proof of the evolutionary models of habits and changes in people's needs. Anyhow, as Lévi-Strauss (1955, 137-8) mentioned it is "*the most complex of human inventions...at the confluence of nature and artefact*". The space indeed, is the most visible outcome, a palimpsest (Corboz 1985) of the evolution of the human society. It sets down signs that sometimes rewrite, other times juxtapose themselves. This continuous redrafting of spatial variations is the physical confirmation of the change in life habits and of the sequence of economical systems.

Reading these signs and the legacies in them, allowed us to trace back their history, through the study of the space fragmentation.

In this sense, the typo-morphological analysis leads us to understand singularities and repetition in the urban tissue. Anne Vernez Moudon (1997, 3) said "*Urban morphologist focalise their attention on the tangible result of the social and economic forces*" by detecting the process of adaptation to external forces over time. Dealing with the study of the city through the morphological approach can be useful to highlight the spatial development of the urban fabric due to cultural, political and economic evolution of the society.

This chapter tries to underline the relationship between social, economic and political forces acting on the society, and the shape of the city they produce. Therefore the aim is not to give a complete revision of the Chinese urban history but moreover to review the urban development having as a preferential lens the economic phenomena that worked on the city. The effort has been to try to identify these mutations starting from the improvements in processes instead of in

the morphological evolution, that has been already the object of several detailed studies.

Multiple scholars have identified different stages, to better define a possible timeline of morphological periods for the Chinese city. The focal point of these studies is the definition of them as *“Any cultural period that exerts a distinctive morphological influence upon the whole or any part of a town. The forms resulting will represent the socio-economic needs of that society and will survive to a varying degree as residual features depending upon the needs of successive societies”* (Conzen 1988).

For example, Whitehand and Gu (2006, 338) described four periods: the Traditional Period (pre 1842), the Early modern period (1842-1949), the Socialist period (1949-1978) and the Post-reform period (post 1978). This division is often used as a possible frame not only to analyse the city, taking in account its distinctive physical transformation, but also to give an interpretation of the processes acting on it. Indeed many specifications have been done compared with their work, mainly refining the traditional period subdivision (W. Wu and Gaubatz 2013; Schinz 1996) even if often there is a lack of information about this peculiar period and moreover there is a lack of physical evidences in the city itself due to the substantial modifications occurred during the modern and contemporary era.

This ‘general’ Chinese historical division can be used also in the case of specific cities, due to the similarity of urban processes (Jiang 2016, 69). Anyhow it’s important to consider the possibility to customize the timeline in order to deeply consider specific city’s features. As an example, speaking about Nanjing Chen and Thwaites (2013, 82), they defined three morphological periods: the Historical Period (up to 20th century), the Republican period (1911-1948) and the Liberation period (1949 to present) considering the pre-19th century hazy to be considered deeply due to severe destructions occurred in different phases. This division points out the great importance of the Republican period that had a significant impact on the city due to peculiar political facts. In other cases, as coastal cities, it might be more productive to consider separately the Late imperial period (1368-1911) and the Treaty port period (1911-1949), due to the international investments and productive sites that heavily shaped the cities. Having as a purpose, in this phase, the description of the Chinese city without a specific geographical focus, the proposed period’s division tries to take in consideration the most of the city’s innovation in terms of settlement, processes and types.

However, as said, despite the advantages offered by the morphological division, the hypothesis of this chapter is that it is possible to pursue a comparable specification having as ‘the set-up point’ the economical course.

On his side Von Glahn (2016) approached the Chinese’s economic history through nine periods, with a great attention to the processes in ancient and modern China. His aim was to demystify the common definition of Ancient China as a “static” economical phase. On the other hand Bramall (2009) focused his attention

on the contemporary system (1949-2007) divided in four political-economic phases.

In line with the cited works, this chapter tries to dismantle the traditional historical division in Dynasties and to analyze the Chinese history across seven different stages, each one identified by a specific economical model.

Certainly, the work not intent to state that Chinese economical system, as well as other countries' organization, could be sharply divided in phases. Rather, the ambition is to hypothesize that in the evolution of the overall system some changes suggest important gaps in the transformation of the space.

In order to pursue this goal it was decided to join all the pre-modern history (between the Shang Period, 1600 BC and the ending of Qing Dynasty, 1900 AD) of China to underline the relative homogeneity of processes ad forces standing on the territory before the XX century.

Moreover, the attention has been focused on the city as a consolidated center; for this reason, the Chinese rural settlement is only marginally considered.

Furthermore the aim is to make explicit the morphologies and the typologies that better represent the mutation of each phase. Certainly, some specific types might appear, as an *unicum* or in certain cities, before the phase they are associate with in this work. The choice is to debate them linked to the period they widespread becoming a peculiarity.

The chapter is organized to be read both vertically, following the chronological sequence, and horizontally, using processes, morphologies and typologies as cross lenses.

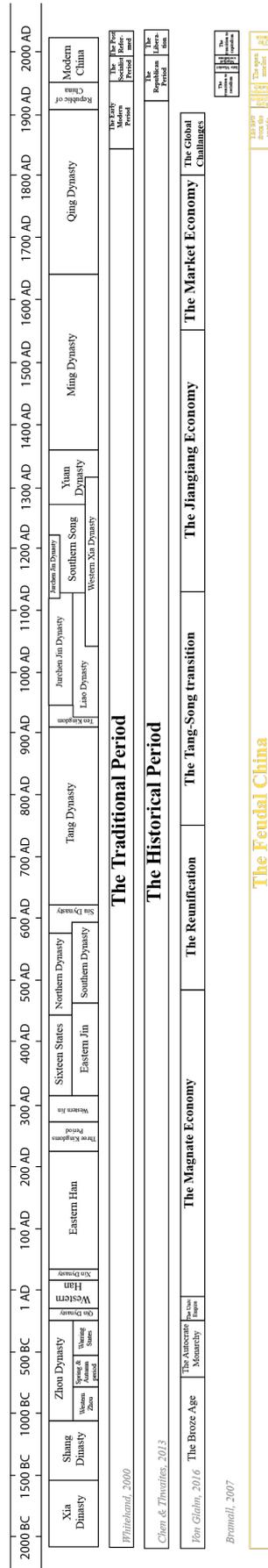


Figure 1 Comparison of Scholars timeline (by author)

## 2.1 The feudal China

The earliest clusters arise, as nucleated ceremonial and administrative complexes, during Shang period (1600 BC-1046 BC) in the present provinces of Shanxi, Hebei, Henan, Shaanxi and Shandong.

People lived mainly in villages devoted to agriculture. The archaeological excavations let us understand that the city's structure, as well as the society itself, was built around small communities usually organized into patrilineal<sup>51</sup> groups, known as *zu* and organized by blood and kinship. Also the ties were arranged into the lineage to bound different generations and reinforce the mutual obligation. Each clan had a sacred place for the worshipping of the place's spirit but their commitment was to the local government: each cluster could be considered as state-cities, with a Lord in charge, but responding to a King who lived in the capital. We can consider this wider urban center, if compared to other peripheral nucleus, to had the same functional and structural features. The historical studies let us hypothesize a close market economy due to the presence of small workshops and warehouses instead of spaces devoted to proper markets (Corradini in Gazzola 1995, 83). It might be possible to hypnotize, by analogy with Western systems, basic trades from outer centers to the capital.

The lineage structure persisted also during the Zhou Dynasty, when however the spatial evolutions of cities become helpful to exemplify the relation between the clan (*zu*) and the neighborhood/hamlet (*li*) composed by 25 households.

The first Chinese unification occurs during Qin Dynasty (221-206 BC). From now on the first Imperial Era begins, partially changing the territorial and social structure. In the new monocentric system indeed the cities become fundamental administrative nodes as well as a unique and big capital was necessary, as a symbol of the immense empire. The capital was the administration, consumption and power location without a market and a production role. Otherwise the cities were established to better manage the entire territory: manage the social system, collecting taxes, preserve the infrastructure and so on. Philosophy became particularly important in shaping the socio-cultural system: from the 221 BC the Legalism suggested a new organization no longer based on kinship but on a new and at the same time compelling hierarchy. Military activities become part of the Chinese economical system: conquer new lands in near kingdoms and agriculture was fundamental to create enough food for soldiers as well as doing wars increased the demand of food. The commerce was not considered as 'right' and the export of product was discouraged with high taxes.

During the Han Dynasty, Confucianism had a dominant role in moral and social codes proclaimed the rationality and the authority as fundamental rules to organize society's life. Although from this prospective all the rules were settled to prevent the chaos, the hierarchical division was less straight; literates and scholars were not demonized but, on the contrary, became an import part of the social

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<sup>51</sup> All the group bore the same name.

equilibrium. The ideal city, as well the ideal society<sup>52</sup>, were carefully described and followed in the Kaogogji and then the Zhouli.

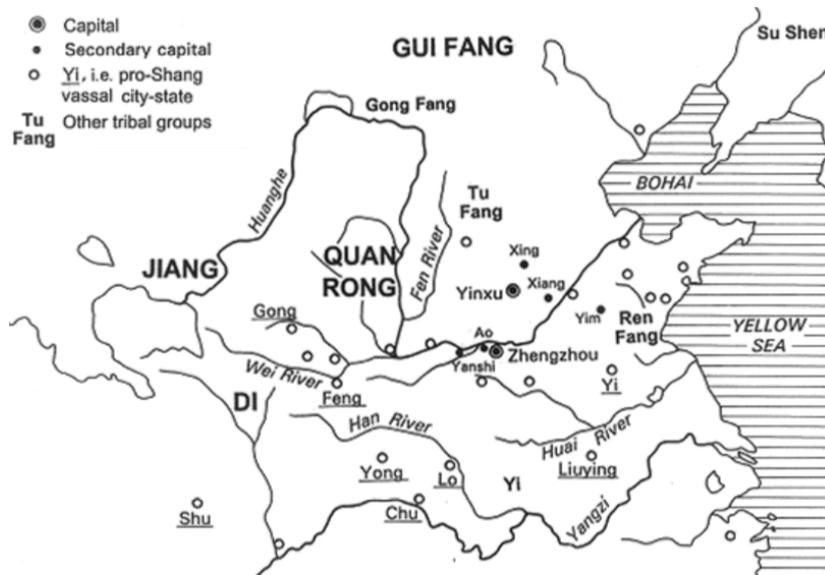


Figure 2 Polities in the Shang Period  
(adapted from Sit 2010 p 65)

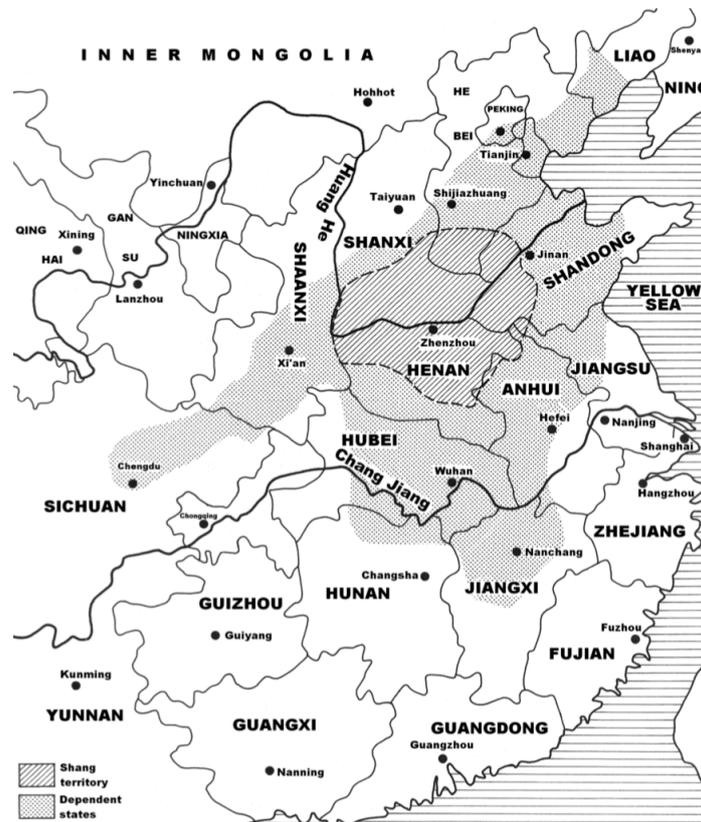


Figure 3 The Realm of Shang Dynasty on top of present provinces and cities  
(adapted from Sit 2010 p 68)

<sup>52</sup> The descendent organization was: Haven, earth, emperors, ancestors, masters and common people.



Figure 4 Polities in Western Zhou  
(adapted from Sit 2010 p 89)



Figure 5 The Realm of Zhou on top of present provinces and cities  
(adapted from Sit 2010 p 94)

Three levels of cities has been identified: the national walled capital, the prefectural seats and the county seats, while villages grew taking in account the agrarian imperatives, larger settlements were established based on the administrative and military system.

Furthermore in this period the Silk Routes were established, lending cities to achieve also a trade role, even if their administrative/military function was still fundamental. However, the agriculture remained the main productive and employment activity. Just during the Three Kingdoms period (220-280 AD) there was a first, formal distinction between urban and rural communities, using the term *cun* to define the countryside villages and *fang* for the urban ones.

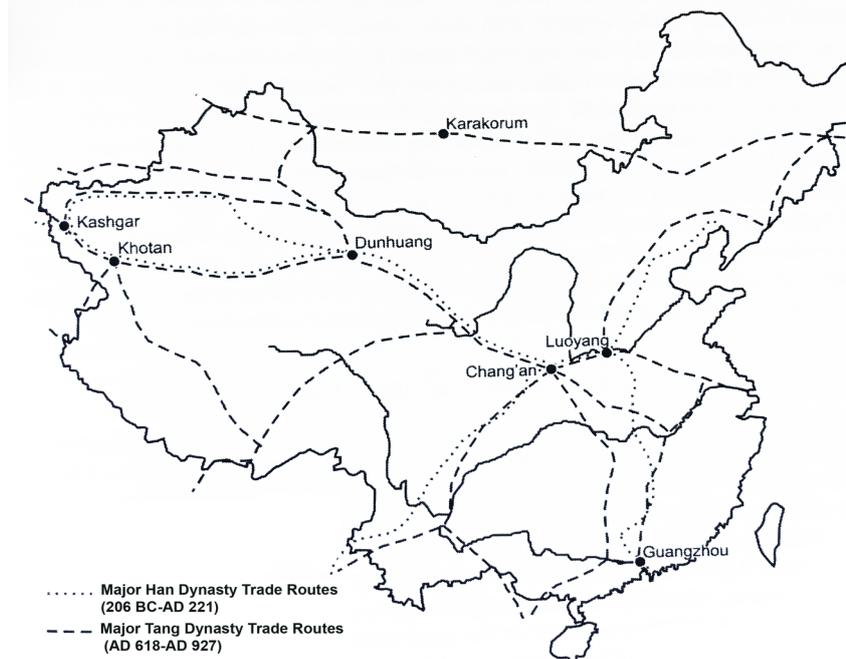


Figure 6 Silk Routes during Han and Tang Dynasty  
(Modified from Wu and Gaubatz 2013)

During the Ming dynasty (1368-1644) China experienced “*the transition from an empire of villages to one of cities*” (Fei 2009, 1)<sup>53</sup>. In the previous period (Sui, Ming, Qing Dynasties) the regional economic spatialization opened to market towns diversifying their bent<sup>54</sup> (W. Wu and Gaubatz 2013). The capital served the emperor as an instrument to convey to people his power, coming from heaven, and consolidate their governance while the other urban centers provided food, soldiers, administrative structure for the empire. The urbanization of cities increased during this period mainly due to the function of imperial rule conducted by the scholar-official class, the *shi*, considered as the “*backbone of this bureaucracy*” (V. F. S. Sit 2010, 133).

The importance of the city was defined by its administrative status inside the general hierarchy, moreover this determined the officials living in the city based

<sup>53</sup> Not only due to the establishment of new cities along the coasts and the Yangze River Delta; moreover the dynasty empowered and restored the already existing system. In this period indeed the pounded earth walls of many cities were reinforced using bricks and stone.

<sup>54</sup> I.e. tea and sugar in Fujian, iron from Hebei, paper from Sichuan (V. F. S. Sit 2010)

on their rank (Sit 1995 cited in L. J. C. Ma and Wu 2005) relating each quarter to a symbolic metal, animal, season, colour or other phenomena, shaping as well the daily actions of the emperor<sup>55</sup> and of the city. The rigid structure simultaneously referred to social distinction, groups separation inside the territory and the cultural symbolism. Therefore a city plan could actually become real only through the imperial participation and acceptance. A plan was actually drawn and an ideology was written, accepted and transmitted.

This particular position gives us a quite strong prospective about the symbolism of the city itself even if there is a different understanding about that: in Jiang (2016, 20) this position had protective purpose, given that artisans were few and usually 'used' by emperor, on the other hand Chen and Thwaites (2013) gives us a more political prospective saying that it was a strategy used to hide it. This gives us the strong sense of an administrative city (Gaubatz 1999), created as a political symbol (Fei Chen and Thwaites 2013). The city served the emperor as an instrument to convey to people his power, coming from heaven, and consolidate their governance.

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<sup>55</sup> South, as an example, was the direction faced when he seated in his audience hall. South is symbol of summer, fire, the phoenix

## The cosmic city

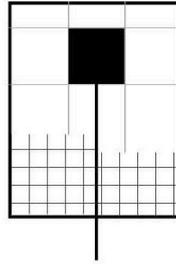


Figure 7 Morphological Scheme before 1840  
(by the author)

One of the primary aim for primaeval communities was to find the perfect place for houses and tombs. In Shang and Zhou the study of topography and geomancy/fengshui was very important and it was also used to trace and organize cities. Lowlands were the preferred option due to the predominant agrarian population. As a result upland areas were at length unsettled and undeveloped. As Wu and Gaubatz (2013, 50) said, the tendency of the ideal city is to pursue the harmony between the natural world and the humanized landscape, therefore natural elements as rivers, to have a good water supply, where particularly important to have the possibility of a moat around the city, human-directed waterways inside it or small sequences of lakes, like in Beijing<sup>56</sup>.

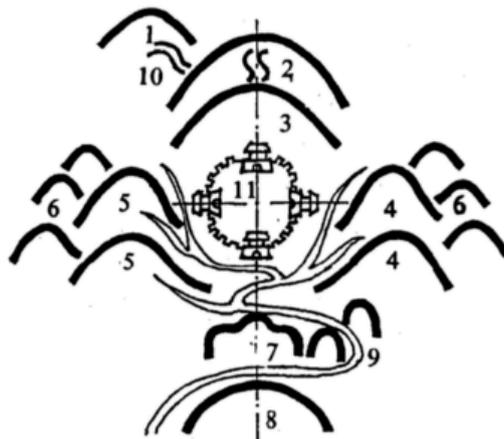


Figure 8 Ideal topography to locate a city

1 Ancestral Mountain 2 Minor Ancestral Mountain 3 Load Mountain 4 East (green Dragon) Mountain 5 West (White Tiger) Mountain 6 Auxiliary Mountain 7 Table Mountain 8 Orientation Mountain 9 Water Outlet Mountain 10 Backbone of Mountain (Dragon) 11 Acupuncture Point (Dragon's Nest)  
(Adapted from Jiang 2016)

<sup>56</sup> The Three lakes of Beijing were dug in twelfth century and each successive Dynasty preserved it

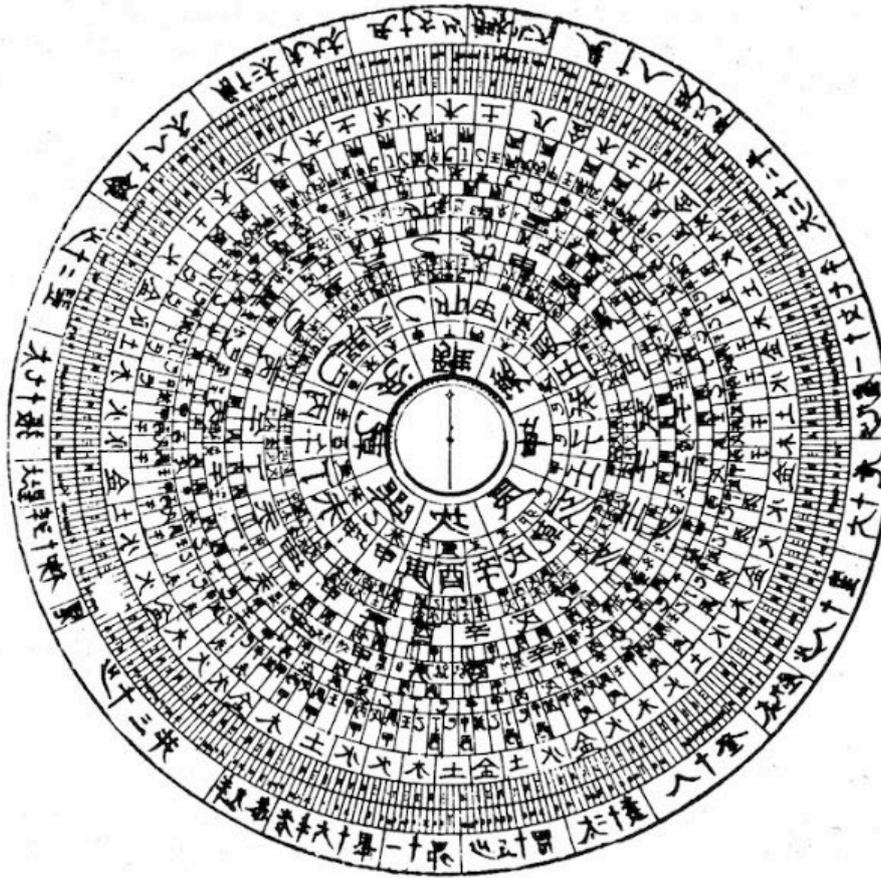


Figure 9 Replica of a Qing dynasty geomantic compass  
 (retrieved from <https://transnationalasia.rice.edu/journal/Volume-2/Issue-1/transnational-geomancy-1>)

The original villages were already quadrangular and walled, and a regular shape characterized the internal subdivision in units according to the social division in clans. The rectangular walled enclosure, that will characterize cities from now on, dates back to this period and archaeological remains, even if limited, locate its presence near the confluence to the Fen and Kuai Rivers (Rowe, Forsyth, and Kan 2016, 32). The structure presented in Zhou Li described a nested city where boundaries and grinds of streets became already crucial in spatial definition. The presence of facilities as guesthouses, hotels and markets was carefully detailed by the rites of Zhou<sup>57</sup>, defining a peculiar morphology as well and refers to a scheme of an ideal city. Commercial activities were located at the periphery of the urban downtown and were characterized by an important presence of Shang's heirs<sup>58</sup>. The proper urban core, with governmental and aristocracy palaces, was enclosed using a first wall. The second ring, of residential and artisan blocks, was also walled to divide the village from the countryside

<sup>57</sup> A day in for every ten hamlets, a guesthouse for every thirty hamlets and so on

<sup>58</sup> Loosing there power, in favor of Zhou dynasty, Shang population has been disperse losing their land, necessarily they start to be artisans and retailer

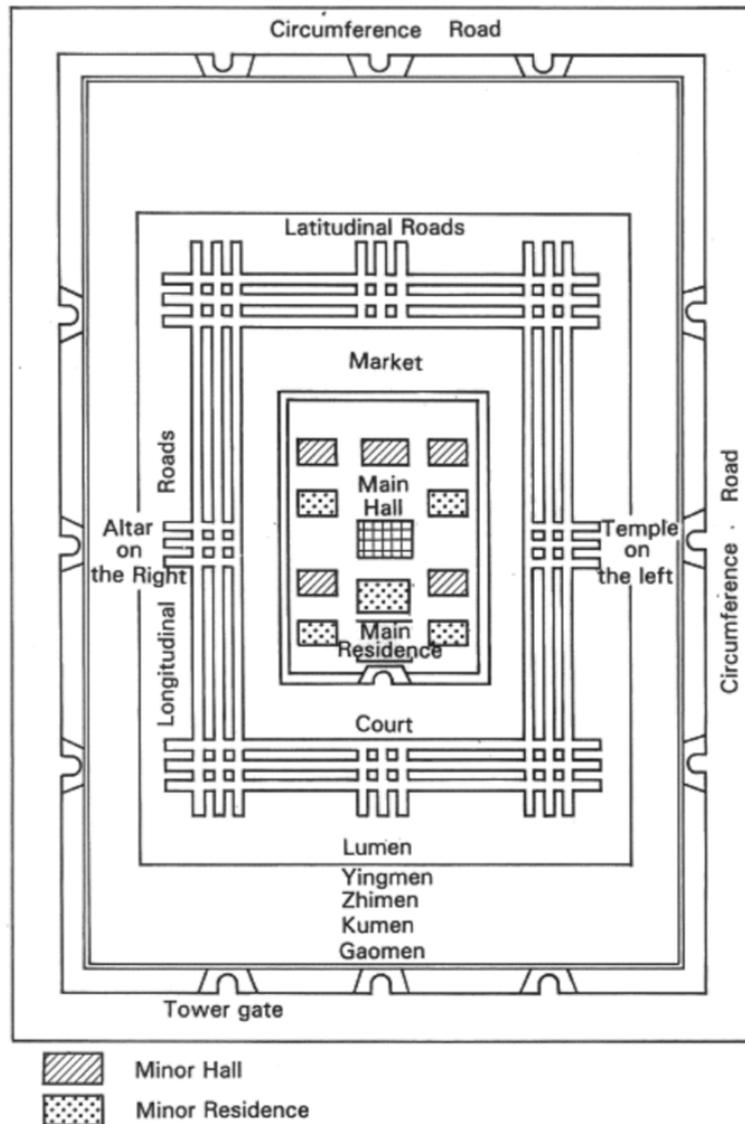


Figure 10 The ideal layout of the Palace  
(Adapted from Sit 2010)

The legalist principle moved to consider worthless the construction of a wall around the city (V. F. S. Sit 2010), indeed, the capital, Chang'an, had no perimeter wall until Weidi's reign (ibid. 125). In general, however, it was an exception in Chinese urban history. The wall had a fundamental role in city shaping and in defining the city importance: both the capitals, Chang'an at the beginning and the later Luoyang, were characterized by a unique perimeter wall. It appeared as a structure for the security of the 'inner city'. The wall shape seems to be more regular in the north and north-west parts of the country; in the central and south parts we often see irregular city-walls. As Skinner (1977, 74) reports *"Walls have been so central to the Chinese idea of a city that the traditional words for city and wall are identical, the character ch'eng standing for both"*.

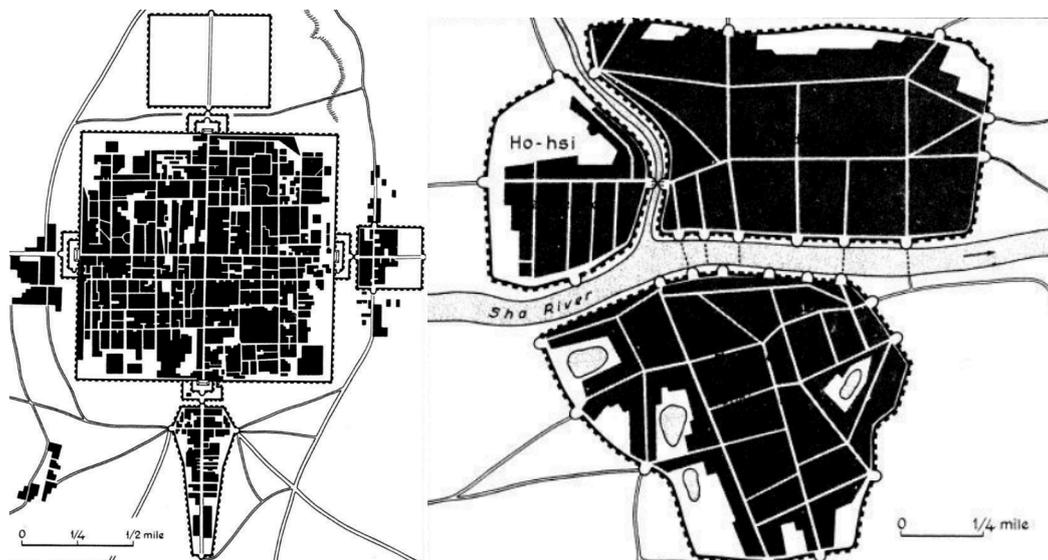


Figure 11 The administrative city of Ta-T'Ung-Fu (left) and the non-administrative city of Chou-Chia-K'ou (right)

(Adapted from Skinner 1977)

He also notes, in the North and Northwest regions, a correlation between the wall regularity and the administrative rank of the city: when the prefectural city was regular in shape, some of the subordinate county-level towns were irregular. In the south, in opposite, the topography made difficult the regular development of the main city (i.e. Canton), so an inversion can be observed: regular small towns and irregular main cities (ibid. ). In case of a regular shape, the rectangular division was maintained also internally where two or three sets of walls were used to create smaller enclosures.

A recent work by Ioannides and Zhang (2017) also relates the circumference of the city wall not only to the geographic condition but also to the local economy, defining the wall as an “important window to understand China’s urban development”. There is a positive correlation with the population size, more population bigger wall, and the city’s position, frontier cities, due to the higher possibility of attack, had stronger walls. The wall was also the element most people used to distinguish a proper city from town and villages (ibid. ).

Enclose open space is one of the morphological features that cannot be ignored (M. Xu and Yang 2009) and represented the ‘basic unit’ of the city. Gates characterized both outer and inner city walls, a second feature of imperial cities.

With the rise of Confucianism the shape and structure of the city assumed a symbolic role: “*The four-sided Chinese city is a physical manifestation of the traditional belief in a square-shaped universe, bounded by walls, with the Son of Heaven at its center*” (Steinhardt Shatzman 1990, 8). The inner part of the city was based on the aggregation of houses in plots with some, rare, discontinuities due to the presence of markets behind the emperor palace. The role of residential fabric in shaping the overall urban system increase in importance and consist moreover of courtyard dwells.

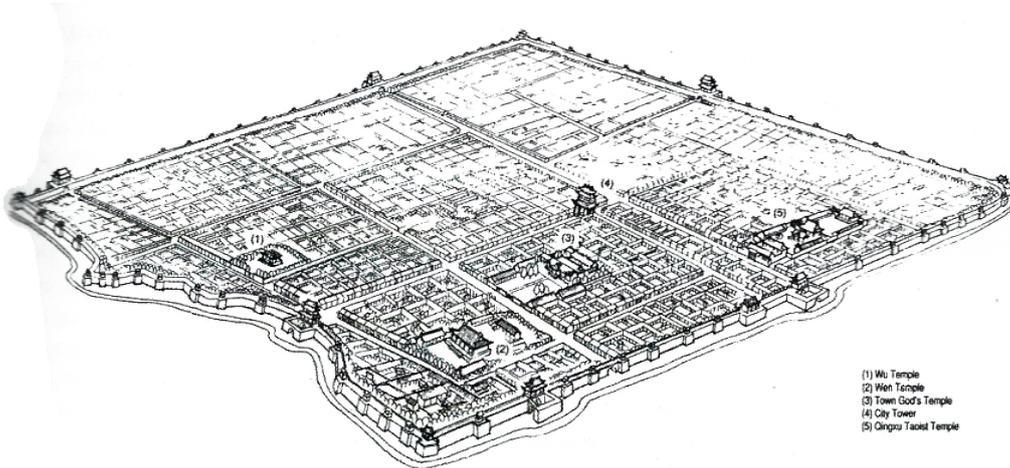


Figure 12 Typo-Morphological Homogeneity in an Imperial Chinese City  
(Adapted from Gazzola 1999)

If to the outside the city wall defined the boundaries, looking to the inside had key roles the imperial palace and the temples. During this period, indeed, it was difficult to identify the presence of public space as squares, the only open spaces devoted to collective practices were the commercial ones although they were not located in central places. Often they were marginalized behind the emperor palace, outside the city wall.

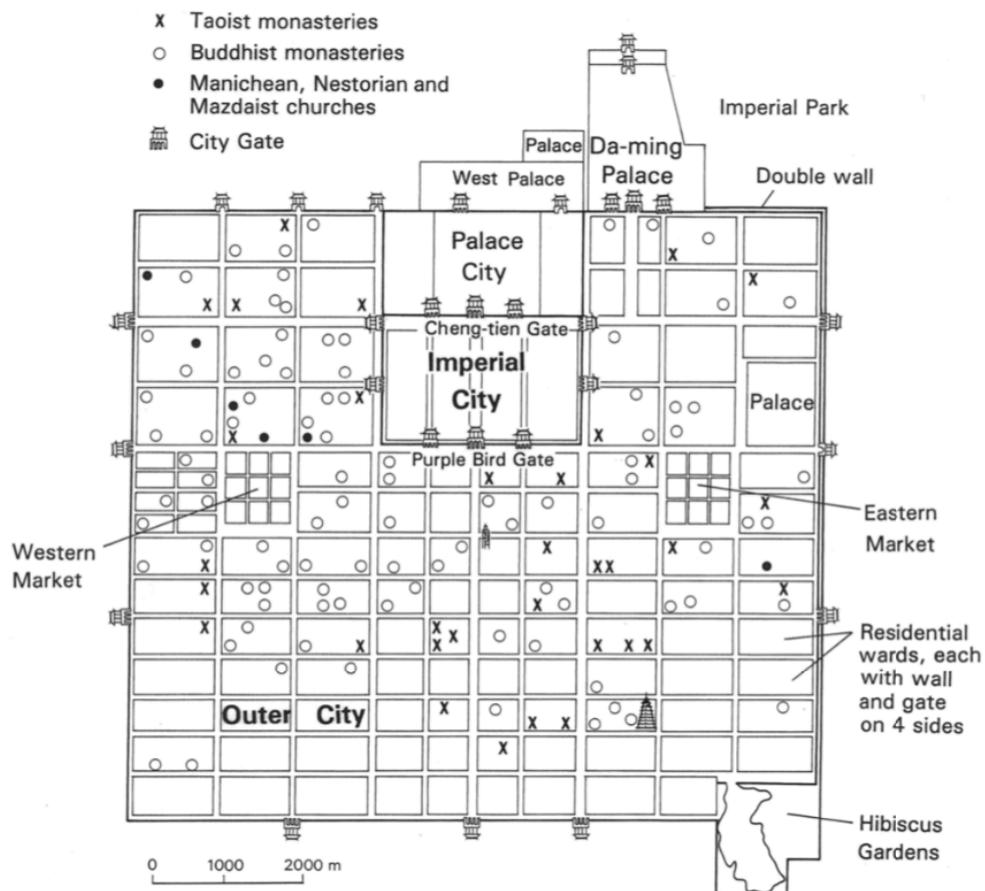


Figure 13 Chang'an in Sui and Tang Dynasties  
(Adapted from Sit 2010 p 151)

The cosmic cities, recalling the image proposed by Lynch (Lynch 1981), indeed were mainly based on religious dogmas and the commercial activities were not always considered as “pure”. Furthermore the Chinese ancient cities consist of a perpendicular set of streets and of a north-south and east-west orientation. This organization occurred also in small cities surrounded by walls so it can actually be considered a peculiar footprint of the period. As said the boundaries were a quite distinctive city’s organization, due to the necessity of the population control and census: inside the city wall the tissue consisted of enclaves where established using the rectangular organization of the hutong as demonstrated by Chang’an City plan showing one hundred and eight wards.

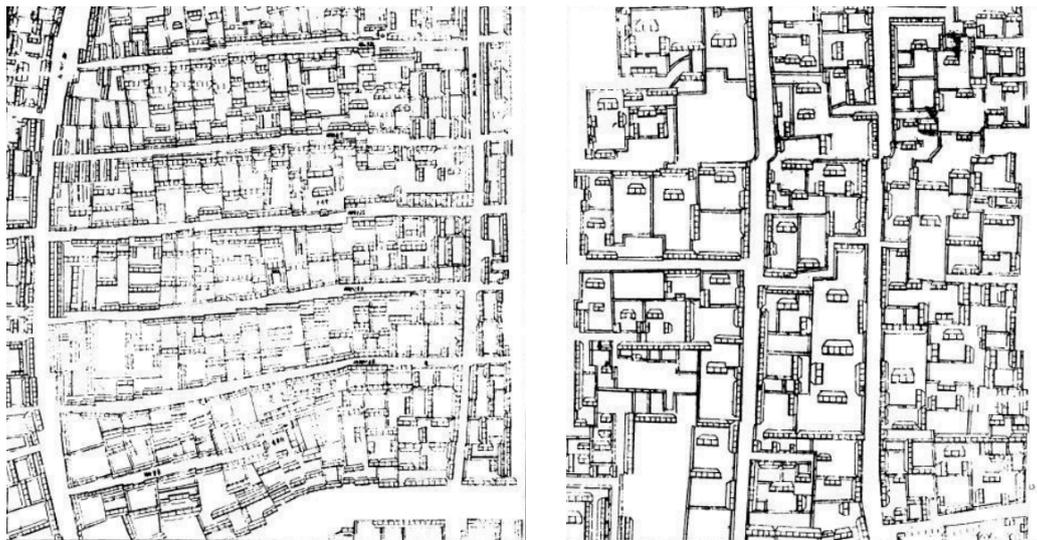


Figure 14 Wards in a major business District (left) and Upper-class District (right) of Beijing  
(Adapted from Skinner 1977)

The settlements were characterized by the aggregation of different residential units, sometimes of different size, organized along small alleys. Just occasionally some factors changed this urban morphology. A noticeable example is the fragmentation of *lifang*'s boundaries that, during the Song dynasty, were built as shop-houses breaching from the introvert to extrovert of the urban tissue (Fei Chen and Thwaites 2013, 17).

## The *Siheyua*: Courtyard House as the city base unit

A courtyard house is the basic residential dwelling that mainly characterizes the urban and rural residential Chinese settlement. Even if it is not the unique residential type used in China, its “ideal form” came up to be the more adaptable, considering the needs of living and the natural environment as climate<sup>59</sup> in most areas of China, from North to South (Ying Liu and Awotona 1996). Its set of courtyards<sup>60</sup> enclosed by walls or buildings on four sides has been the perfect protection from the wind coming from north, in this case the dwelling had quite high walls all around, but also in case of tropical cyclones coming from south; in this case the courtyard type has been built as a multi-storey courtyard to provide a refuge from floods (ibid. ). In both cases, indeed, the life of the clan was conducted inside the unit but still having the possibility to use external spaces.

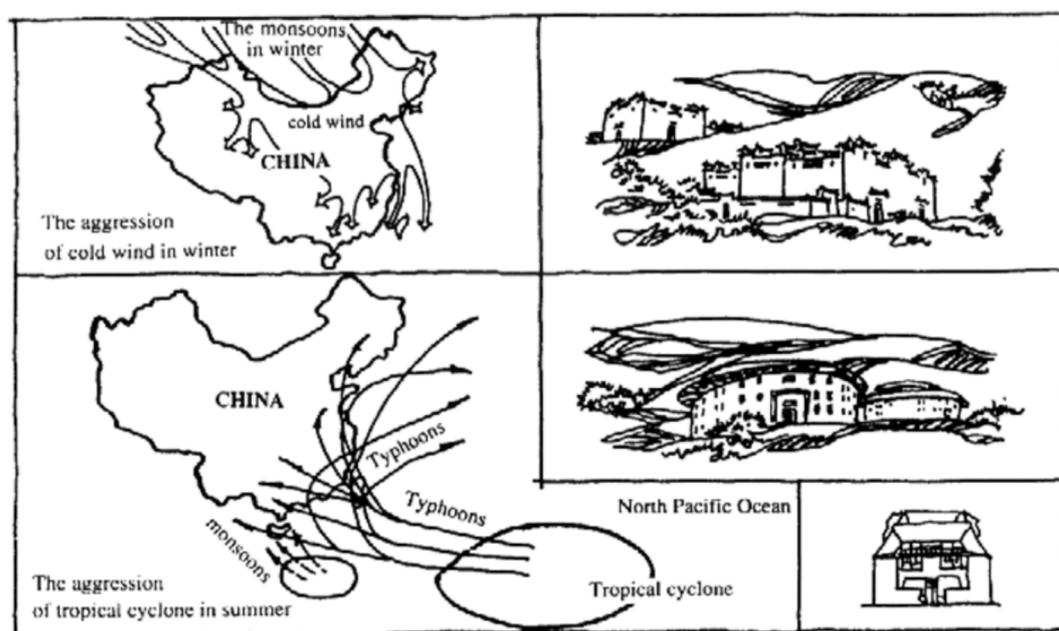


Figure 15 Courtyard houses shaped by climate conditions  
(Adapted from Liu and Awotona 1996)

As for the urban settlement, the spatial organization of the courtyard type reflected the socio-cultural ideology derived from Taoism and Confucianism. So we can observe the perfect mix of the harmony between environment and buildings, from Taoism, and the importance of the hierarchical order, axis and symmetry promoted by Confucian architecture. The house is not only a dwell but moreover an ideal container of *Qi* in which the family was organized following the Confucian’s moral principles and rules. For instance the rules helped in keeping order into the family’ relations between older and younger generations.

<sup>59</sup> China is both a monsoon and typhoons risk territory. The direction of the wind changes in different period of the year based on the season in case of monsoon

<sup>60</sup> Meant as regular open space



Figure 16 Sample of Courtyard Houses plans. From small and simple (A and B) house to large dwells (E and F) expanded to accommodate new descendants (Adapted from Wang and Ye 2005)

The axial and symmetrical form symbolized the authority (Ying Liu and Awotona 1996), for this reason the most important buildings were located in the most private area of the house, characterized by a higher roof, placed at north<sup>61</sup>. Ahead the core quarter, in the inner part, the house was organized to host 'executive' householder. The outer part was devoted to servants or guests and open to the family. The house form strongly enforced the patriarchal lifestyle of the Chinese society.

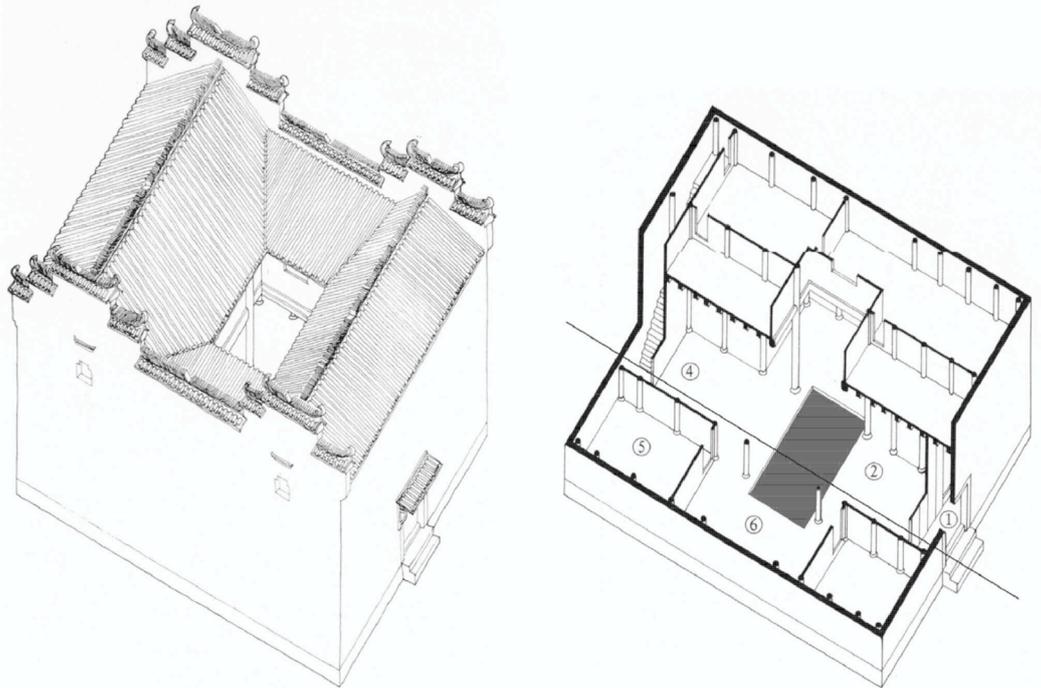


Figure 17 Elementary form of a traditional Chinese dwell  
(Adapted from Wang and Ye 2005)

The entrance of each unit was usually placed along the south facade, the one facing the alley.

The yard dimension was designed taking in consideration the height of the surrounding building. If the proportion of it was wrong the inhabitants may feel in discomfort both from the emotional and microclimatic point of view (Z. Ma 1999). The yard is often considered as an additional *en plein air* room for usual domestic activities but it was at the same time a space to be crossed by the family to reach each other room of the house. Usually the rooms were positioned on 3 or 4 sides taking in consideration that the division from the outside was highlighted by the wall. The extension of the house defined the economical position of the family, the number of people living inside was dependent on the family (clan) size.

A peculiarity of this house structure was that the transition from the public (street) to the private (yards and building) was carefully designed with the purpose

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<sup>61</sup> As for the city, also in the house unit the cardinal direction was quite important: houses were mostly placed north-south direction

of not showing the dwell's interior. In this way the negative forces coming from the outside were stopped, following the *fengshui*.



Figure 18 Internal perspectival view of a courtyard house  
(Adapted from Jiang 2016)

## 2.2 The new from ‘outside’ (1840-1912)

The modernization of the Chinese city has been a very slow process due mainly to the long feudal period and the size of the country itself. Indeed it's important to remind that even in the same period of time urban poles were differently stressed by historical facts. In the mid-nineteenth century many cities were still traditional due to a ‘closed-door’ policy carried out by Qing government. The Opium Wars, started in 1840, were a quite important seed of change, at the beginning only for the coastal and northern cities involved, but quite soon it spread in the inner county. After a first phase in which Western imperialist powers forced the ‘open-door’ of the Chinese economy and social organization, substantial changes took place influenced by the strong contact with foreign traditions. However, the germination of modernization maintained many semi feudal and semi colonial characteristics. As said the first changes took place in coastal ‘concessions’ and in some areas of the North, also invaded by foreign countries. Those cities experienced a fast development mainly due to the injection of international investments and the accomplishment of industrial spots. In twenty years since the beginning of the War sixteen cities had been opened as trading ports.



Figure 19 Rebellion main areas

(Modified from <https://www.quora.com/What-is-the-Taiping-Rebellion-It-seems-like-more-people-were-killed-in-it-than-WW1-and-yet-no-many-knows-about-it-What-was-its-relation-with-the-opium-wars-and-the-downfall-of-the-Qing-since-they-occured-at-roughly>)

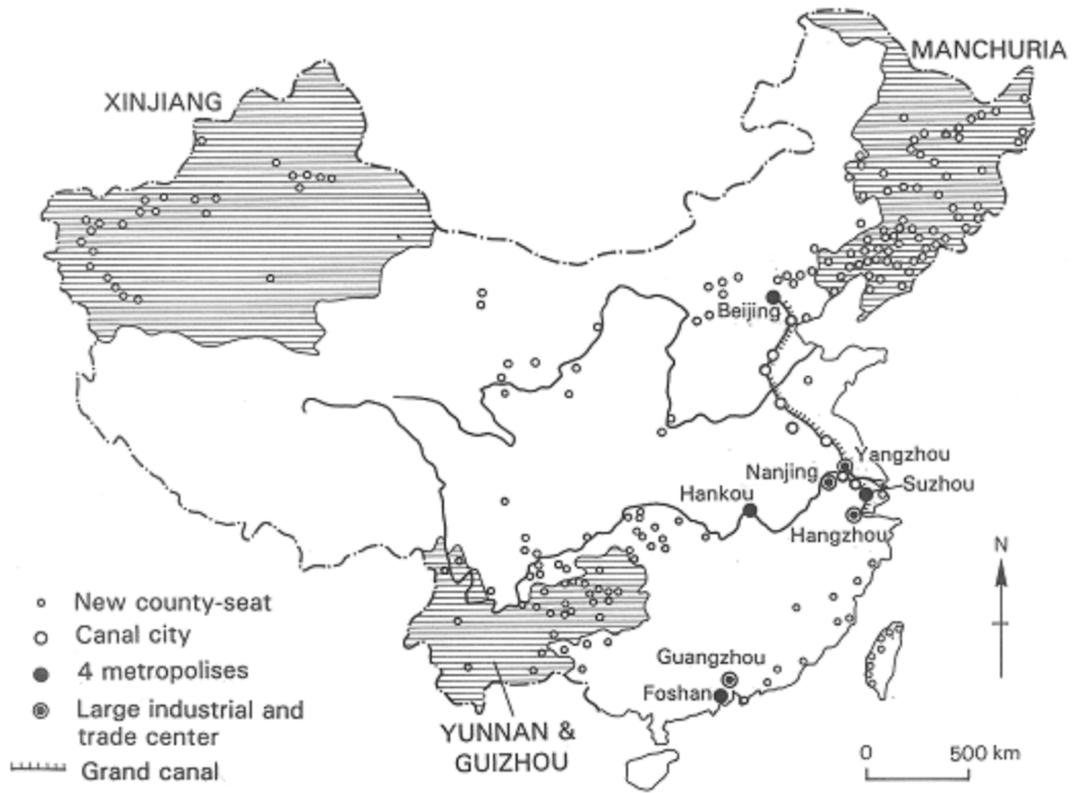


Figure 20 Major Cities, per type, in Qing Dynasty  
(Adapted from Sit 2010)

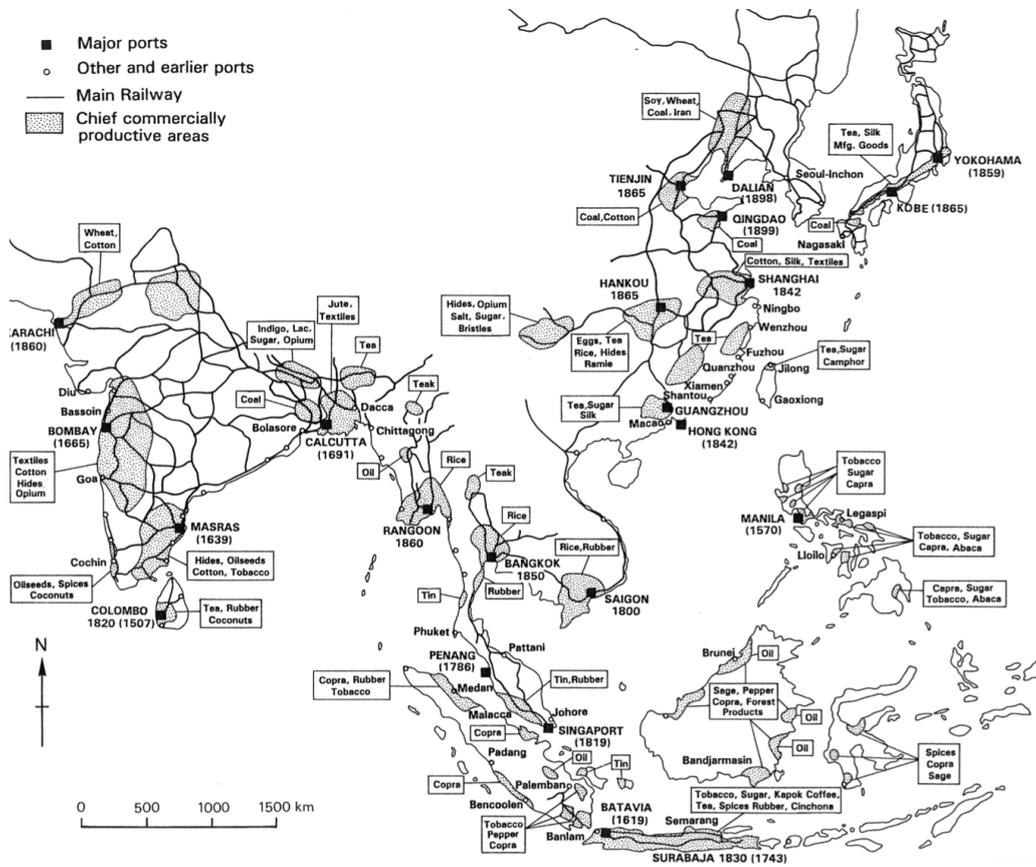


Figure 21 Major Ports and commercial areas in the Asia 1600-1940  
(Adapted from Sit 2010 p 224)

After the first Opium War the Qing government signed (Convention of Nanjing 1842), with Western and Japanese colonies already on Chinese territory, a number of conventions allowing to establish their concessions, under the direct guide of foreign authorities. The consequent port city development will lead to the contemporary exponential coastal growth. Shanghai, Tianjin, Guangzhou and Hankou became particularly important as concessions for foreign inhabitants were established, with their own economic and administrative power, leading to the creation of states within the state.

In 1863 the first modern factory was established in Suzhou<sup>62</sup> (Fei Chen and Thwaites 2013, 26) a few years later in Nanjing and other cities along the railways. We can consider this as the seed of the first Chinese industrial revolution, dated 1888-1998 by Yi Wen (2016). The development of new areas outside the concessions led to the construction of many urban public facilities necessary to serve the needs of the growing economic progresses. Many plants were built at the beginning of 1900, as water, gas and electricity, by the different Western Nations to provide basic services inside the concessions. This process, of course, drew the attention of the city government that a few years later, in a joint venture with some Chinese businessman, created in Hankou the first Water&Power Company (Rowe, Lü, and Zhang 2001, 34-5). After this first attempt a number of services as fire control, water supply, telegraph began to appear in the luxury houses of the concession of Shanghai and Tianjin. Unfortunately this process did not have any impact on the majority of the inhabitants until the end of the nineteenth century but it can be considered a fundamental step for the city's modernization and the development of housing.

Outside the concession, the urban and social evolution was not suspended. Slowly the transition, result of all the economical modification presented, from a feudal organization<sup>63</sup> to a semi-feudal one took place. At the first sight it can be traced in the further differentiation of people's social and economic condition with the rising of new social classes as capitalists, industrial workers, functionaries. This can be translated, in urban settlement, in different housing and services requests.

After 1911, when the Revolution overthrew the feudal dynasty the concessions achieved a growing social importance and many Qing nobles and warriors bought a propriety inside investing on real estate. Other areas outside concessions became densely populated thanks to the industrialization. It's the case of Nanchi and Zhabei districts in Shanghai or Hebei district in Tianjin, where the municipal government was located, attracting a growing number of officials and warlords who invested in land to build houses. Moreover the growing importance of coastal cities led to the flowing of many people, mainly migrants from rural areas, in it, producing a demand for housing and giving the possibility to private real estate development to emerge as a specialized business source of local

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<sup>62</sup> Suzhou Yangpao Ju-Suzhou Gunfire Factory

<sup>63</sup> Characterized by a multiple city fragmentation where the different social classes experience their own urban space

finance. Unfortunately, the increase in population led to a wider income gap among residents. The middle class expanded but the lower strata were unable to face poverty and meet their basic needs. Shantytowns became additional cities in the city, often self-built and located in the outskirts, due to the continuous rise in land and dwelling prices.

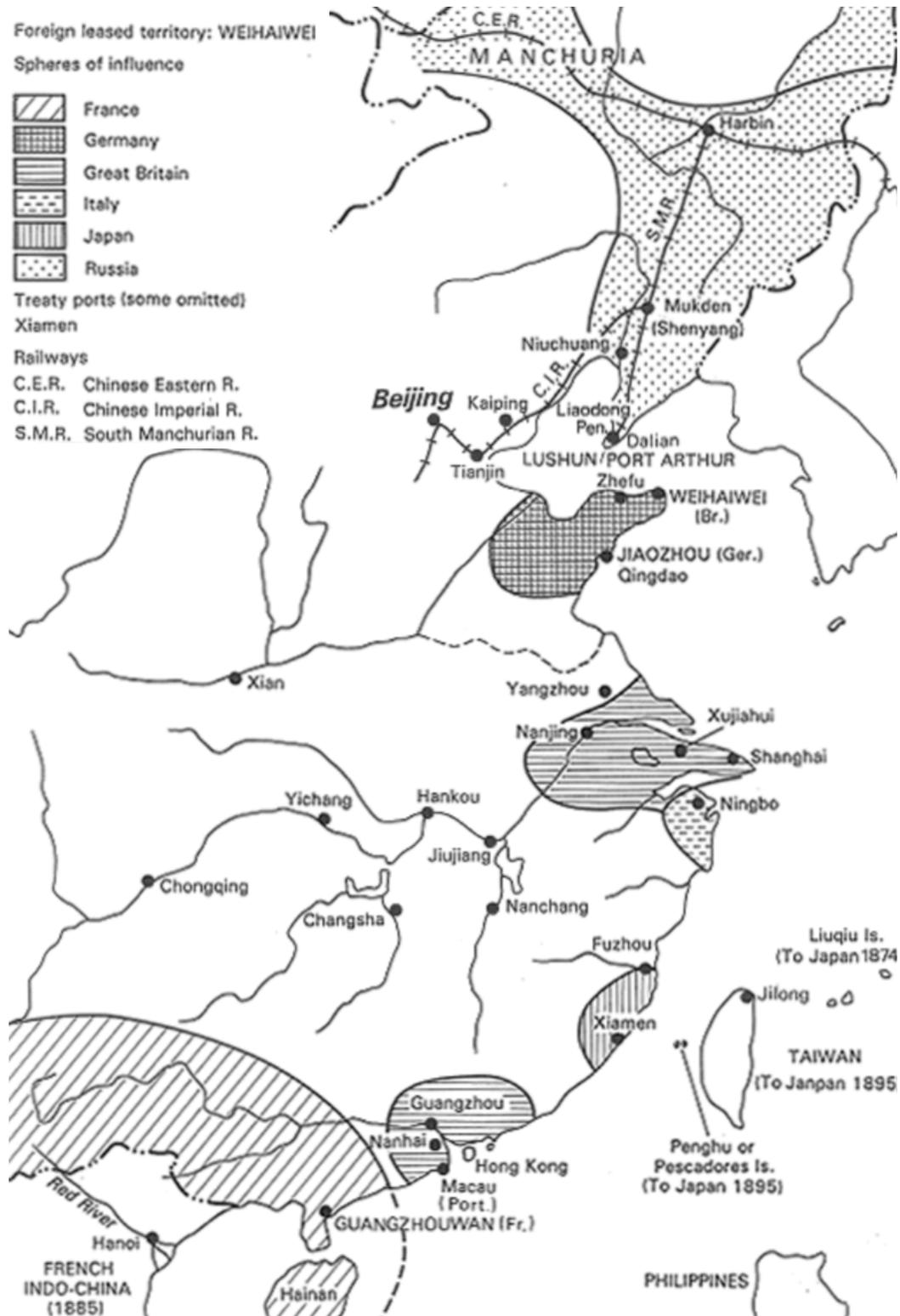


Figure 22 Foreign concession in China 1900

## The attached city

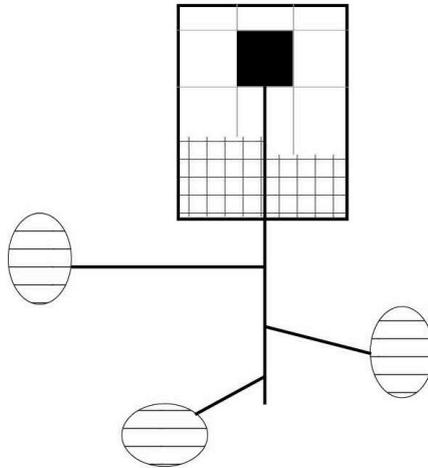


Figure 23 Morphological Scheme 1840-1912  
(by the author)

The Chinese city of this period had to cope with two different development speed: one inside and one outside the concessions. Moreover, urbanization processes might be different depending on the living culture of the state organizing the concession. Therefore we cannot refer to a unified planning process, and morphology, but rather to a sequence of phases that lead to a chaotic perception of the space.

Treaty port cities were known for this peculiar urban morphology and economical organization as ‘dual cities’ (Johnson Linda cited in Fei Chen and Thwaites 2013, 21), in which also the architecture described a bipolar condition. Ancient urban tissues, mainly composed by courtyard houses, results juxtaposed to international settlements and their innovative morphologies. In the Chinese traditional city, the house’s windows never faced the street in contrast with the organization of the concession houses where, following the taste of the belonging nation, the transparent part where street oriented. The most popular street structure was the gridiron that, in combination with the new street’s electrical system, created a more open and secure atmosphere, quite different from the alleys once considered disordered and ‘uncivil’ (Fei Chen and Thwaites 2013) from the colonizers. Since the arrival of different European Nation in China, the homogeneity, character of the traditional period, was slowly broken by new special types<sup>64</sup>.

Most of the new settlements were established close to the river or along railways to have a convenient transportation system and Western concepts were followed not only during the design process but also in the construction works improving the quality standards and techniques. They were nodes of Western and

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<sup>64</sup> “In Caniggian analysis, all building types other than dwellings are special types of any urban tissue” (Samuels 1982, 3 cited in Urbanform.org/glossary)

Japanese Power and influenced (Esherick et al. 1999, 2), where the major banks, publishers, newspapers were located. From the Chinese's urban reformer point of

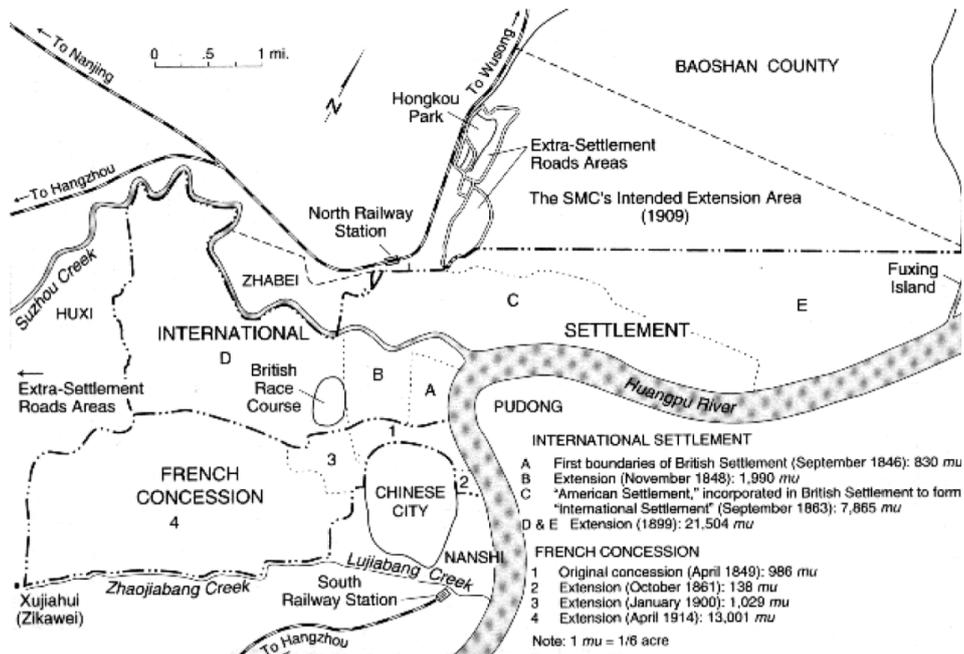


Figure 24 Foreign Settlements in Shanghai  
(Adapted from Chunlan 2010)

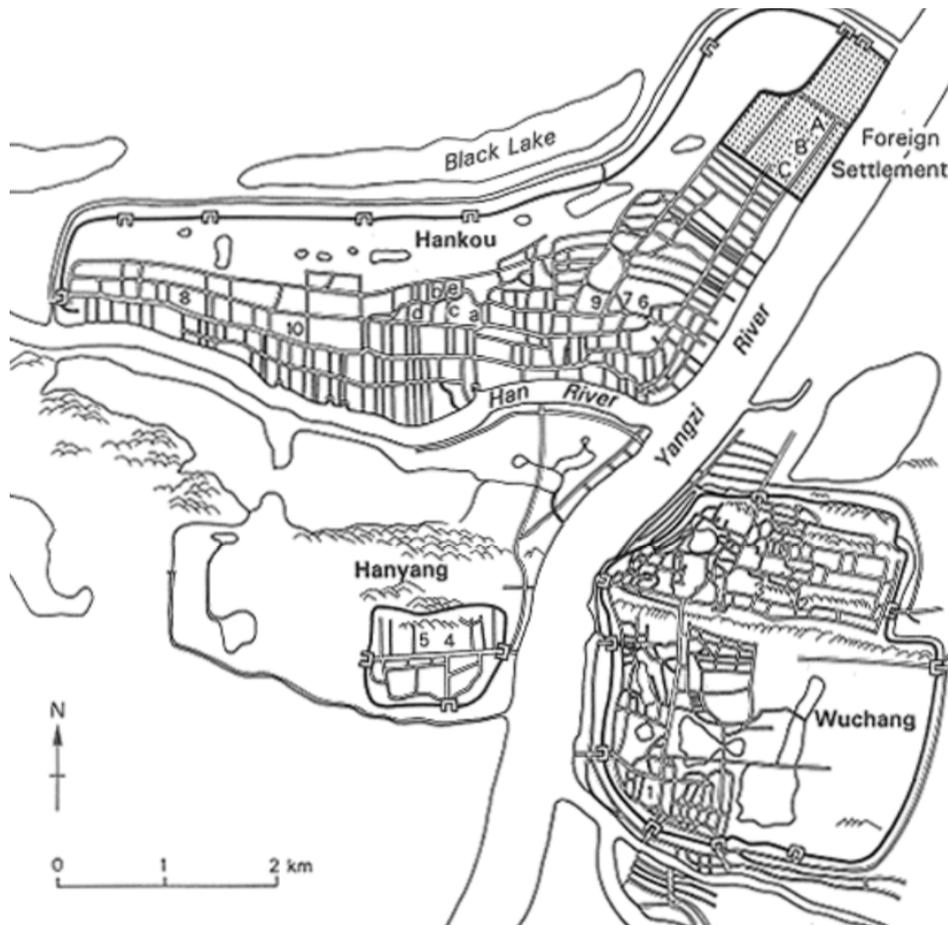


Figure 25 Wuhan Cities: concession in non-costal city from 1865 to 1890  
(Adapted from Sit 2010)

view, those new districts provided a strong model in terms of hygiene<sup>65</sup> and policies to their modernization agenda.

Churches were built by western religious organizations adding not only new styles in terms of prospects and decoration but moreover new morphological rules and tissue alignments as the parvis in front of its entrance, the different height to the street, not least its orientation. Those objects described a punctual change inside the city but since 1845 (British Shanghai concession) the phenomena of concessions in treaty port cities had already changed the equilibrium of the city system with more extended projects.

Public functions as banks, churches, theatres were placed around small plazas but also public gardens and hotels were established inside the concessions giving the image of cities inside the city. In Tianjin<sup>66</sup>, considered the Hyper-colony in terms of concessions area<sup>67</sup>, the goal of modernity lead the Provisional Government to destroy the historic city wall to eliminate stagnant water and old dwellings, instead a ring of roads was laid out deeply changing the balance of the city and its future development.

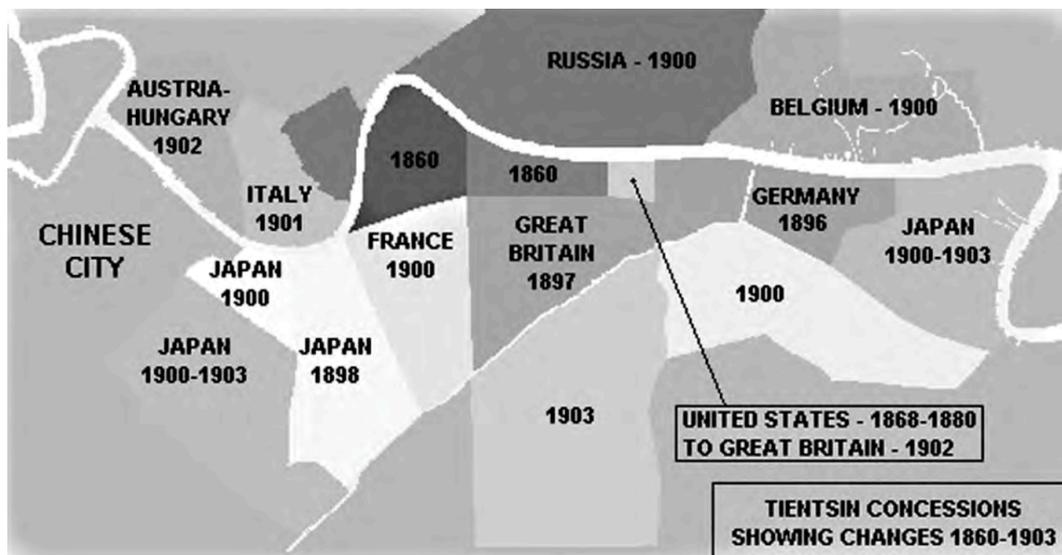


Figure 26 Tianjin Hyper colony: changes from 1860 to 1903  
(Adapted from Marinelli 2009)

<sup>65</sup> That was consider a symbol of their superiority (Rogaski in Esherick et al. 1999)

<sup>66</sup> 9 concessions were established by British, Italian, French, Russian, German, Japanese, Austro-Hungarian and Belgium

<sup>67</sup> 15.25km<sup>2</sup> in 1903 second after Shanghai



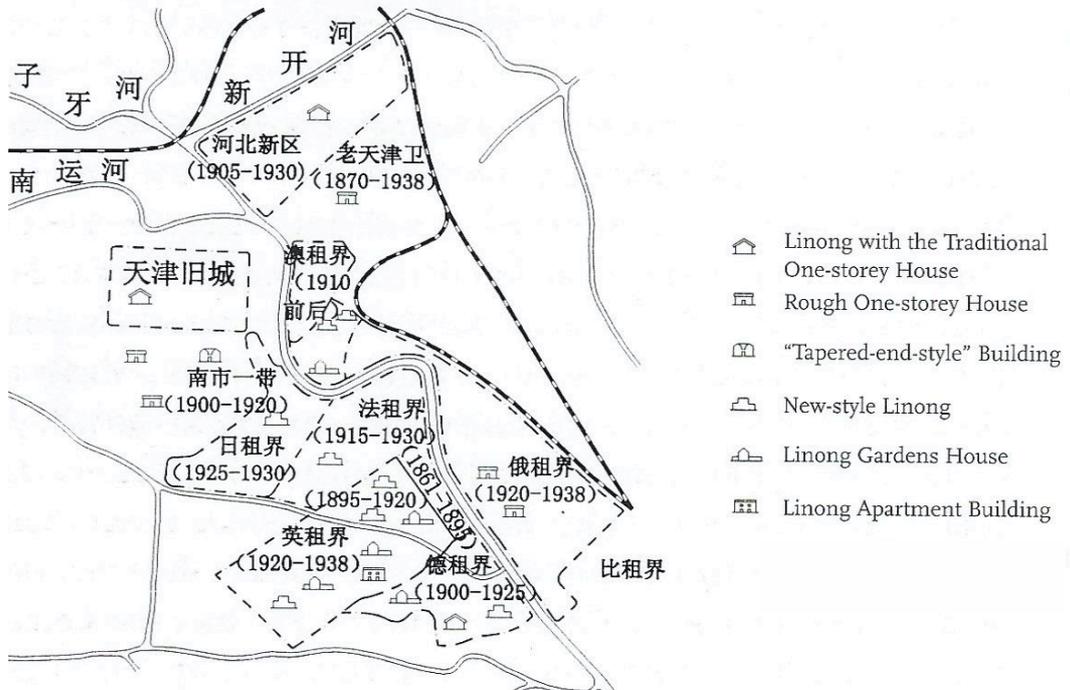
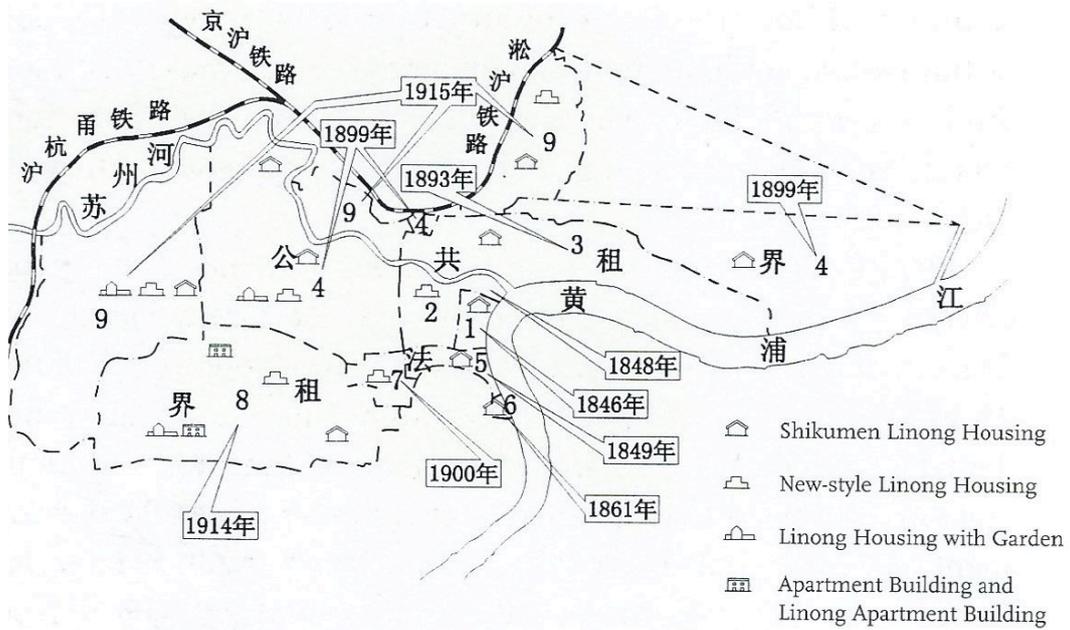


Figure 28 Distribution of House types in Shanghai (top) and Tianjin (bottom) from 1840 to 1949 (Adapted from Rowe, Lu and Zhang 2001)

## The Shanghai Shikumen: From the tree to the nest

*Shikumen*, literally translated as ‘stone gate’ it’s a unique housing’ style that characterized the city of Shanghai, but also used in other cities with some modification.

*Lilong*, on the other hand, morphologically described the entire settlements composed by *Shikumen* houses, at least at the end of 19th century. *Long* is used as noun referring to an alley, *Li* mainly refers to ‘human settlement’<sup>68</sup>. Even if sometimes it can refer to a measurement unit<sup>69</sup>, in this case it means “inside” or ‘housing compound’ (J. Li 2015, 7). Colloquially, *Lilong* are also called *LongTang* by Shanghai inhabitants.

*“The pattern of Lilong appeared in this west–east and modern–traditional confrontation, and gradually became the dominant residential form for the mass of bourgeois citizens in the treaty port cities”* (M. Xu and Yang 2009, 102).

Typologically this house dwell can be considered an evolution of the courtyard house due to some common features. In contrast it face specific issues of the Chinese city of this period: an higher density, from the low rise of 1 storey to the 3/4 storey to allocate the growing population, the yard was usually smaller and located in the back to maximize the land. An important aspect of *Shikumen* houses lies in its natural adaptation to the rise of market rules influenced by the social and political changes of the time; it can be considered the first “*speculative mass housing based on a prototype*”(R. Y. Chow 2014). *Lilong* shaped up to be an opportunity of profit for foreign businessmen (C. Zhao 2010, 72) and, moreover, defined the evolution of this architectural type as the first one strongly shaped by the real estate market.

### *The early Shikumen houses (1870-1919)*

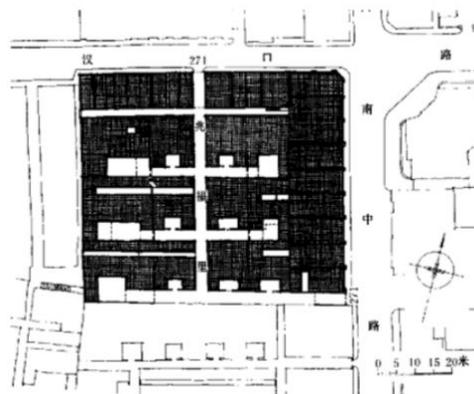


Figure 29 Morphology of early *lilong* settlement  
(Adapted from Zhao 2010)

<sup>68</sup> As described in traditional Chinese settlement it can refer to the number of neighborhood household, depending on the different periods it can be 25, 50 72 80 or 100

<sup>69</sup> About 500 meters

This type emerged after the simple wooden houses were banned to give the floor to a more durable dwelling's type. It is mainly concentrated within British and French concession settlements. Unfortunately many have been demolished or altered during following urban transformations, for which reason their original appearance can be only reconstructed using historical sources.

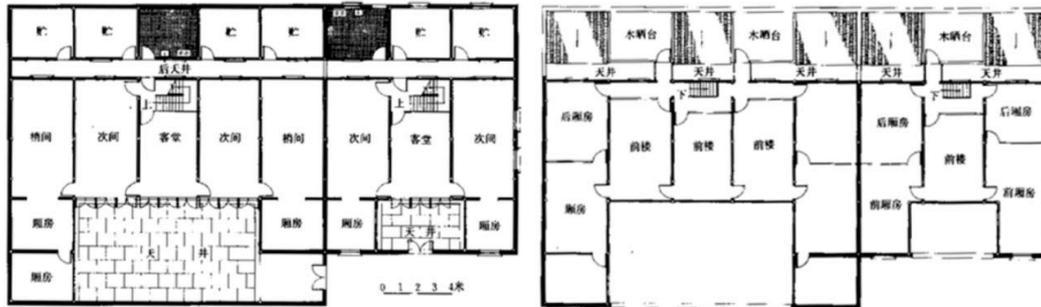


Figure 30 Early Shikumen neighborhood plan, ground (left) and first (right) floor  
(Adapted from Zhao 2010)

The plot size for a single house was around 10.8 to 12.6 meters<sup>70</sup> in width and less than 16 meters in depth with a total area of 200 square meters. All major rooms, as living rooms and side halls, were positioned around the main courtyard in symmetrical position. The stairs, that connected the ground floor with the second one, are located behind the main hall. Usually at the back of the living room some single-storey auxiliary rooms were arranged, separated from the main house by a quite narrow, 1.2/1,5 meters depth, yard. These rooms became the foundation of a wooden terrace accessible by staircase. Also in this case, the house's dimension was related to the family status: some 400/600 square meters owned by wealthy families houses were found in early neighborhood as some double bay houses were used to rationalize space. In the early period due to the scarcity in land and finance, this house type was small in scale compared to the latter. A single neighborhood hosted around 30 single units (from 1 to six per row) including shop houses usually located along the public street. All the units in a certain neighborhood had a shared collective image: same colours and materials but also same general style.

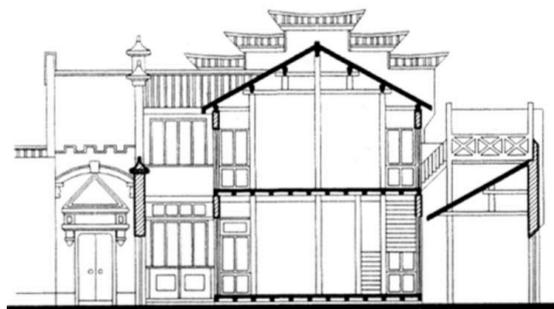


Figure 31 Early Shikumen section and relationship with the yard  
(Adapted from Zhao 2010)

<sup>70</sup> width was misused in bay. 1 bay was from 3.6 to 4.2 meters



Figure 32 Early Shikumen aerial photo  
(Adapted from Zhao 2010)

The new units seemed to be quite appreciated by the Chinese population who had the possibility to live in ‘the city’, with infrastructures, work and facilities, and in the meantime have the quiet living habits and tranquillity this dwell type ensured behind the high walls and stone gates.

This type seemed to be a good match between the Chinese traditional living habits and the growing demand for urban dwelling with a particular concern to economy. Those dwells, indeed, were mainly built by foreign investors and developers who had little knowledge of Chinese context and housing construction, for this reason they choose to stick with the row-house layout, the type they knew better because it was the main unit type in Britain at the time. The settlement was indeed organized around a main alley working as backbone and secondary alleys working in *cul-de-sac* style.

The single type was repeated as a pattern to maximize the use of space and serve more units as possible with few alleys. The units facing the outer street were often transformed in commercial activities at the ground floor giving a more open appearance to the street. On the other hand the main entrances were few and symmetrically located along the main façade.

## 2.3 The early capitalism (1912-1949)

The definitive overturn of the feudal system took place from 1911 when, after the Xinhai Revolution, the Qing Dynasty collapsed in favour of the newborn Republic of China, established in 1912, whose first president was Sun Yat-sen. The Sun's government can be considered temporary since its control was mainly clustered in the southern part of China while, in the North, the power was still in the hand of the Beiyang army and the monarchy. The political situation of this phase has been quite fragmented not only due to the internal conflicts to reach the power<sup>71</sup>, but also due to the international influences. The First and Second World Wars particularly stressed the Chinese dynamics not only from a political point of view but also from the economic and urban ones.

While the foreign power continued to enlarge the existing concessions, it also spread from coastal and river open cities to more internal and northern settlements. Particularly in North China, where Japanese and British forces liquidated the German estate, such as in Qingdao, real estate owners developed, on government leased land, new residential settlements to be rented to Chinese residents and Japanese low-strata inhabitants. This new construction pattern continued for years, but it never reached the influence of the trading port cities (Rowe, Lü, and Zhang 2001, 55).

Anyhow it is important to notice that, after 1910, the foreign real estate dominance left the floor to Chinese developers who started to invest in the sector. The construction of houses incrementally drew the attention of inland and overseas architects. Moreover, builders gradually changed their traditional workshops to more modern companies welcoming new technologies and construction techniques. Since 1918 the most significant cities had electricity, telegraph and telephone services but also modern medical services such as hospitals and more than a half had libraries (W. Wu and Gaubatz 2013, 66). All these implementations highlight the continuous interest in Western life both inside and outside concessions.

The continuous rising in population maintained stable the house demand. Old-style Shikumen houses, characterized by big rooms but primitive facilities, were often overpopulated by more than one family<sup>72</sup> to face unaffordability. Cities, due to the widening in income gap and modification of the family's structures, were also characterized by a larger number of residential types. In particular middle class, composed by people with professionals' skills, enlarged complexifying both the social and urban structure.

After 1927 some City Governments, in an effort to answer ordinary people's needs, carried out some plans of housing development. Moreover many cities stipulated regulations to define the ratio of density, to restrict the use of single-

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<sup>71</sup> The Beiyang army had the power from 1912 to 1928, after this phase the Chinese's territory was in the hands of 'war-clans' in incessant struggle. The Japanese power also stressed the situation since 1915 and the creation of the communist party in 1921 changed the national equilibria again

<sup>72</sup> Rowe (Rowe, Lü, and Zhang 2001, 55-8) reported an exceptional case of a house shared by 15 families but, four, five or six families sharing the same dwell was quite ordinary at the time



storey houses to allocate more people per foundation area and to enlarge the width of roads. On the other hand since 1928 many Chinese cities experienced systematic urban planning aimed at the creation of a modern and advanced China, able to attract foreign investment not only in the concessions but also in non-coastal cities. The State tried to achieve these goals mainly through a new railway system and the adoption of Western planning mechanisms (Fei Chen and Thwaites 2013). According to Rowe, Junhua and Jie (2001, 55-8) Shanghai and Nanjing, the center of power of the Republic of China since 1927, notably managed to build more than one project in this direction with the contribution of foreign or Chinese architects educated outside the country. The decade from 1927 to 1937 was booming thanks to the new infrastructures and industries, but the rising parabola soon turned to be descendent due to the anti-Japanese war and the urban destruction caused by it.

## The modernist city

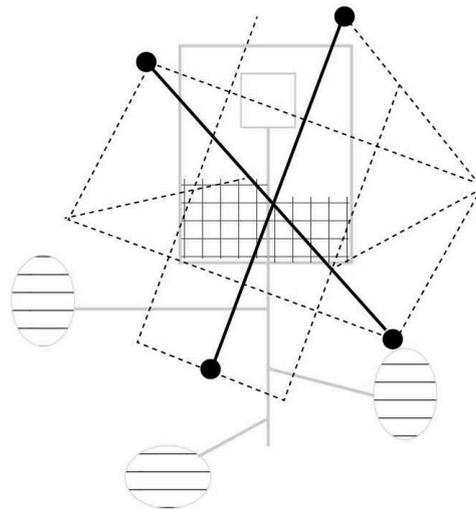


Figure 34 Morphological Scheme 1912-1949  
(by the author)

The morphology of this period can be observed through the master plans proposed by different municipalities to modernize cities and draw an order after the chaotic guidance of Qing. Two main characteristics define the blueprints of the main cities: subdivision in zones and reorganization of the street network to achieve a new aesthetic and functional order. Through these features, the city expressed the State's priority for economic development and the central role of connections, both at the national and city level.

Even if the above aspects were already recognizable in the imperial city, they would acquire a different meaning in the plans of this period. The orthogonal grid was certainly connotative of the imperial city, but not as much as walls and gates. Streets never crossed the center of the city, where the imperial palace was located, but they were conceptually generated by it due to the cosmic organization of the urban settlement. In the Republican city, roads were even more important than buildings (Musgrove 2013, 74), indeed they crossed the city's core from one side to the other. Moreover streets, not walls, delineated districts. Also the zoning was already part of the imperial urban organization even if there was not a primary concern around the location and allocation of functions, that was partially a bottom-up process. On the other hand, the 'modern' city described a new hierarchy of spaces, also in economic terms. At this regard the State's buildings were not necessarily located at the center, the power meant to be 'public' and 'visible', so they were placed along main roads as part of the city organism.

The master plans proposed for main cities such as Guangzhou, Shanghai and Nanjing perfectly described the above characteristics. Furthermore they took advantage of foreign influences not only in the modernist approach to iconic buildings but also in the city's division in zones. Sun Ke, Major of Guangzhou since 1921, was fascinated by the idea of a 'scientific planning' inspired by the Modernist belief (Fei Chen and Thwaites 2013). In this direction, the Planning Bureau defined a blueprint in which the city was divided into civic, residential and

factory areas. An overall improvement in streets, bridges and public spaces was also part of the plan.

Even if the Guangzhou plan was not completed due to Sun's resignation, it could be considered as a trailblazer for the Shanghai and Nanjing more detailed master plans.

In Nanjing as well the new city's plan was carried by a group of American consultants under the guidance of Sun Ke, former major of Guangzhou, and son of the 'founding father'. The chief architect was Henry K. Murphy in pair with Ernest P. Goodrich, an engineer. As Musgrove (in Esherick et al. 1999) noticed, "*Nanjing was being conceptualized as the new Washington, DC*" and this explains the massive intervention by American architects. Moreover, one of the GuoMingDang targets was to obtain foreign funds so the plan would need to meet Western taste. The new city's plan mainly worked on street axes while the city wall and built up fabric did not change much (Fei Chen and Thwaites 2013). New street axialities were composed by an orthogonal grid interrupted by diagonal avenues that, like in Guangzhou's plan, served to emphasize the elements at the ends.

Anyhow in many cases the plans were not completed due to the political instability of the time, the scarcity in resources of the Nationalist government and, in the end, the Anti-Japanese war. However, the modernist approach adopted can be considered the seed of the contemporary city planning in which the division in functional zones can be observed.

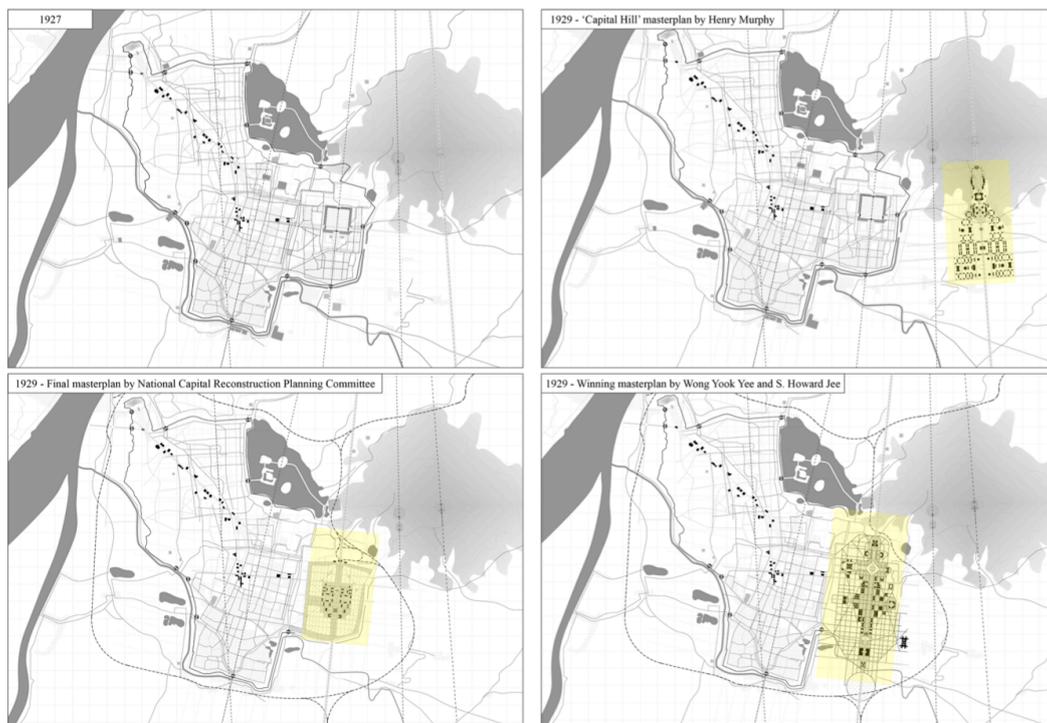


Figure 35 Planning proposals of the competition for the Capitol Plan (1929)  
(reproduced from Bona (2018))

The stagnation experienced by central and southern cities due to the war was not experienced by northern cities. The evolution of the Chinese transport system was one of the main driving forces of new settlement experiences. Particularly in the North of China, where the railway system was vigorously implemented, companies devoted to its construction were often handled by foreign. The company's staff and workers moved into the emerging cities of the north, creating the necessity of housing. Differently from what was happening in coastal and consolidated cities, where the government was restructuring the city's plans, in new house settlements devoted to specific enterprises was the company to answer to the housing necessity. It is possible to consider these attempts as the "*earliest large-scale residential areas designed according to modern planning concepts*" in China (Rowe, Lü, and Zhang 2001, 58). This is the case of Changchun, selected as capital to rule Manchuria from Japanese, that was a railway town since the beginning of 1900. Here the planning was as well a Western approach characterized by monumentality and organized around the centred Unity Plaza. Differently from the traditional Chinese city, the street network connected in several diagonal squares and symbolic spaces, creating a different hierarchy order with the grand grid network.

In Shanghai the plan was proposed by Dong Daqiu, a Chinese architect also educated in the US, with the consultation of the American architects Carl Grunsky and Asa Philips (Fei Chen and Thwaites 2013). Here, an administrative division in zones was proposed to create a commercial zone, an administrative area, placed at the very center at the crossing between the main North-South and East-West axes. The plan also identified residential zones separated by social classes and park areas. The Modern Movement and the City Beautiful Movement traces can be observed in the attention to prospective views given by the principal axes and the elements, such as pagoda-like buildings, placed at the extremities of axes to highlight the visual monumentality.

In the concessions at the same time, new types were used to face the new economic and social issues. The morphology of the plots inside the new settlements maintained, mainly, the *Lilong* organization base on a central internal street working as a backbone and many alleys connecting the house's entrances to the main street.

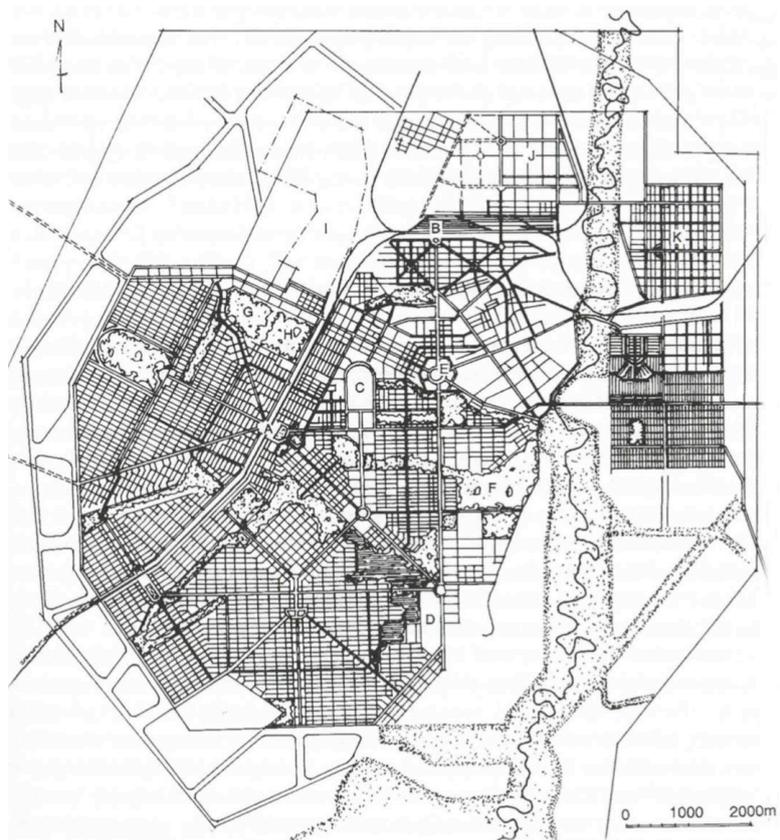


Figure 36 Changchun plan in 1937

A Planned new railway station B Old railway station C Palace D Shrine E Datong Circus F Sport G Horse racetrack H Golf course I Airport J Light industry suburb K Heavy industry suburb  
 (Adapted from Chen and Thwaites 2013)

## The New Shikumen: Transitional Typology for Contemporary needs

From 1870 to 1940s five subtypes of *Lilong* houses were built in Shanghai to face not only the growing population but also the class differentiation. The old-style/early *Shikumen* built from 1870 to 1910s, the late *Shikumen* during the decade 1910-1920, the new style *Lilong* '10s-'40s, the garden *lilong* type (1920-40) and the apartment *lilong* (1930-40) (Bracken 2012, 124). Even if the building time period can be considered only approximate it also corresponds to a change in the city economy and society: "12.18 million square meters of residential buildings built before 1949, of which 1.47 million square meters are garden *lilong*, 1.19 million square meters are apartment *lilong*, 3.35 million square meters are new-style *lilong*, and 6.17 million square meters are old-style and late *lilong*." (Wang Anshi in Bracken 2012). These data give us not only an idea of the consistency of *lilong*, more or less 60% of the entire city, but also about the fragmentation of it due to the new social system.

As previously said, indeed, real estate operations became a significant income for whom operated in this new sector and, in this frame, many social layers arose as well. Sure enough, *Shikumen-Lilong*' evolution defined a change in house type that corresponds to the complexification in both population 'hierarchy' and richness. Even if also in the case of traditional courtyard house it was possible to define the rank of owners, by size and house organization, the type itself didn't change. As an example Garden *lilong*, also called urban villas, were specifically introduced to please upper class (Bracken 2012, 125), used to large spaces and multiple facilities.

### *The late Shikumen house (1910-1930s)*



Figure 37 Morphology of late *lilong* settlement  
(Adapted from Zhao 2010)

Due to the historical and economical Shanghai's context some changes were applied also to the existing *shikumen* houses. Some extra space, above the kitchen and auxiliary rooms, was created to accommodate more people who sublet the rooms from the household. The size of the single unit switched from 3 or 5 bay to 1 or 2 because many household were not able to manage large houses so a smaller type reflected better the market requests.

Of course a change in material was applied: the stone around the gates was replaced by bricks, in some cases reinforced concrete was used for the elevation

above service rooms, black traditional tiles were sometimes replaced using machine made tiles, wooden structures decayed as well and brick structures came up to be the preferable choice.



Figure 38 Late Shikumen section  
(Adapted from Zhao 2010)

The new typology was studied to face the growing number of people coming from the countryside who needed new dwellings; due to that the house' space was maximized both in terms of internal plan and neighborhood juxtaposition.

Units were smaller, of course to face the change in city's density, but also to cope with the modification of the family asset<sup>73</sup>, started after the collapse of Chinese Empire, characterized by smaller family units.

Despite the land densification, the new settlement organization appeared more spacious, probably due the innovation in terms of materials and the different logic of the plan.

Wider lanes were introduced, so the main ones reached 4 meters, enough for car passage, branch alleys were enlarged reaching 2.5 meters improving not only the settlement organization but the overall living conditions.

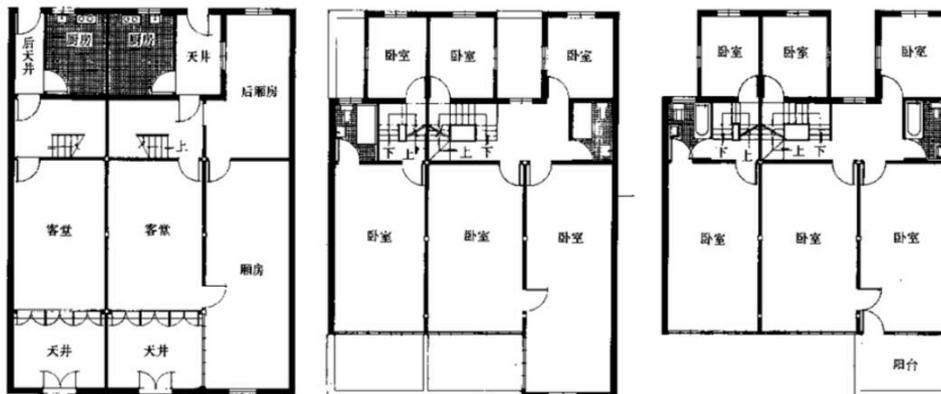


Figure 39 Late Shikumen plans  
(Adapted from Zhao 2010)

<sup>73</sup> As said before it was a patriarchal organization spatially represented in the courtyard organization

## *The New-Style Lilong Houses (1910-1940)*

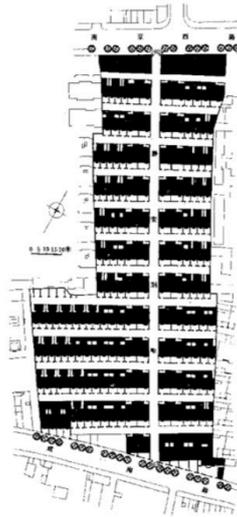


Figure 40 Morphology of New-Style *lilong* settlement  
(Adapted from Zhao 2010)

The increasing gap between rich and poor originated a growing middle class, with specific residential needs. In response to this, both *shikumen* and *lilong* evolved in a novel house type. The new one had a 50-60% of site coverage compared to the 70-80% of the previous configuration due to the different buyer orientation.

Machine Bricks and reinforced concrete structures became standard materials useful to reach the 3 storeys height that characterized this period. Mortar, earlier made with limestone and clay, was now produced with limestone only. Steel also often replaced wood in windows and doors, with the obvious consequence of disappearance of the front unit gate (*shikumen*). The front yard and its multifunctional use disappeared, instead a front garden become the filter to the entrance. Concerning the internal space, even if the hosted activities remained the same, they were better organized highlighting the functional logic of this estate period. Also the new facilities as gas, electricity and sanitary system inevitably changed the house structure requiring specific spaces.

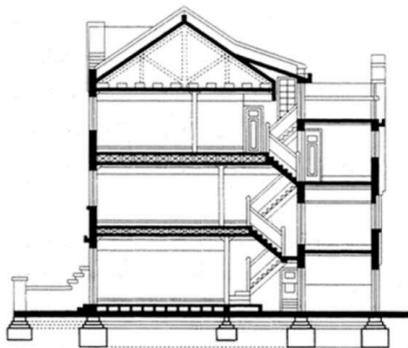


Figure 41 New-Style *Shikumen* section, relationship with yards  
(Adapted from Zhao 2010)

One of the major modifications was the almost complete disappearance of shops facing the street. Streets and alleys became larger to allow vehicles movement and to give a better sun exposure and ventilation to the dwell that, with the new type, were much more dense both in architecture and inhabitants.

In terms of neighborhood is it possible to notice a structural difference between the old and new model, that somehow describe the overall city's modifications.

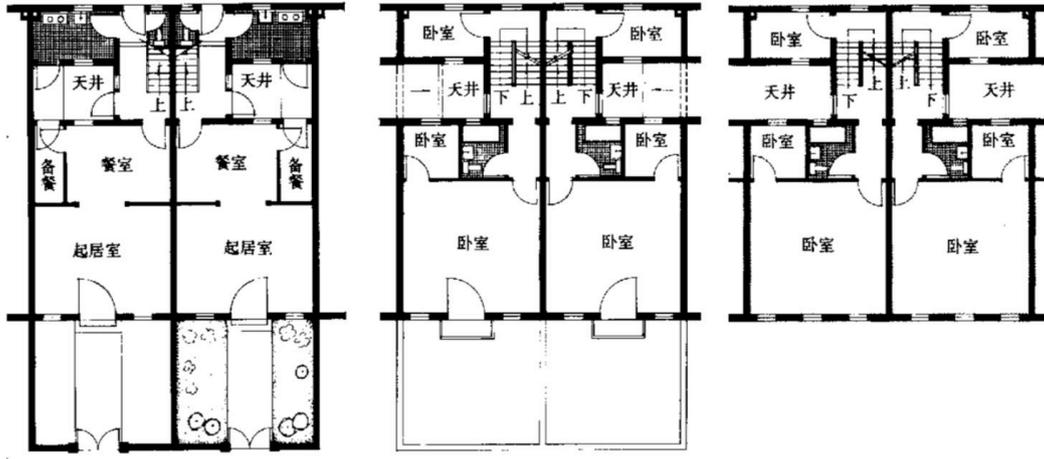


Figure 42 New-Style Shikumen plans of two houses  
(Adapted from Zhao 2010)

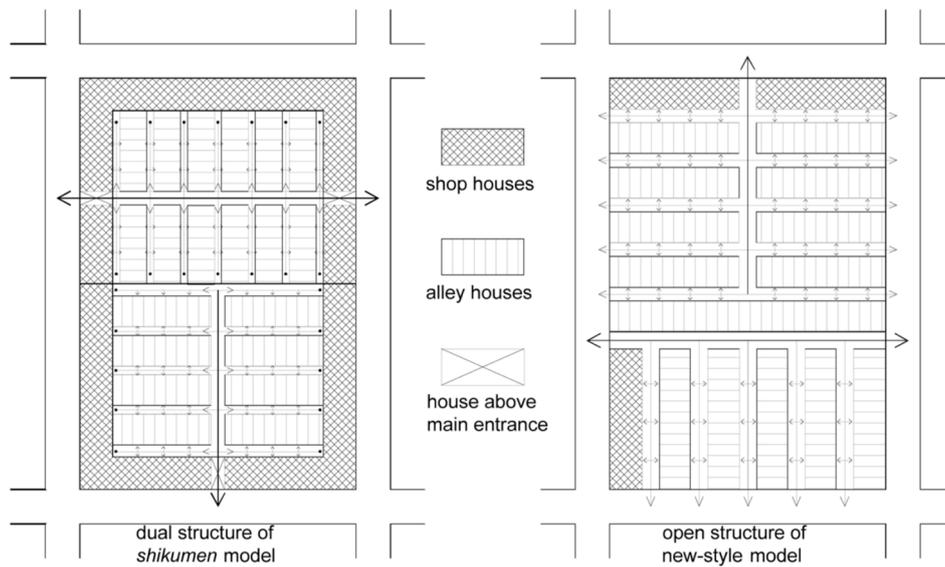


Figure 43 Comparison between two different neighborhood structure  
(Adapted from Zhao 2010)

### *The Garden Lilong (1930-1940):*

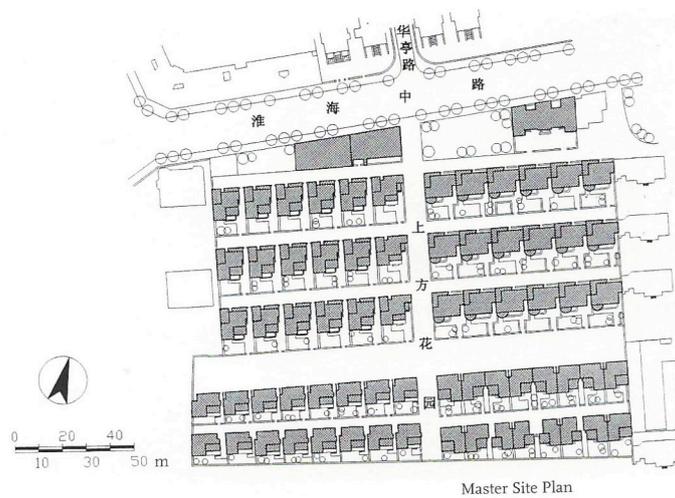


Figure 44 Morphology of Garden *lilong* settlement  
(Adapted from Rowe et al. 2001)

This typology arose thanks to the growing influence of western culture and the fresh elite composed by Chinese high officers and wealthy European families. These categories looked for more private but open spaces and better house's location in the city. Anyhow due to the high selling price the demand of this type remained limited to a small-scale production.

Only the buildings defined the external boundaries, so no proper wall or fence was adopted. A control point, to check on pedestrian and vehicular traffic, was established in correspondence of one entry. Whereas additional entries were not supervised.

The street network was usually organized originating from a main road and some secondary branches. In some cases side lanes were directly connected with the outside street system. The street cannot be considered, in this case, a semi-public space where social life was conducted. Streets had a connective role, highlighting again the western trend of this period. Here the *lilong* acted as a fishbone for single houses.

Also considering the downgrading of the street to pure connecting space, commercial activities almost disappeared. In some cases the buildings facing the external road were partially occupied by shops or offices but the neighborhood mainly evolved in a mono-functional settlement. In this case there was no dependence between houses and commercial activities, the use of open spaces and internal mobility was quite different from the previous type.

One of the more distinctive features of the Chinese living habits, the courtyard, was abandoned in favour of a private garden. It was usually located in front of the house, maintaining somehow its role of filter from the outside. Differently from the courtyard the garden was characterized by grass and plants and often used to host social gathering, reflecting a change in lifestyle.

The plot reserved to this type is much bigger compared to the previous, here the focus is not the density but the increase of personal dwell space. Houses were detached or semi-detached villas, measuring more or less 2 *bay* in plan and

maximum 3/4 floors, characterized by an increase in plan functions and complexity. As a good example of the architectural complexity of the new dwells we can observe the number and position of the entrances: the main one located in correspondence of the garden, a secondary entrance from the garage, highlighting the importance of the new mobility with cars, and a last one, in the back, for servants. Rooms and windows were freely positioned giving particular importance to the garden view.

As said both exteriors and interiors gain an even more international style and technological orientation, an enabler above all is the introduction of flat roof.

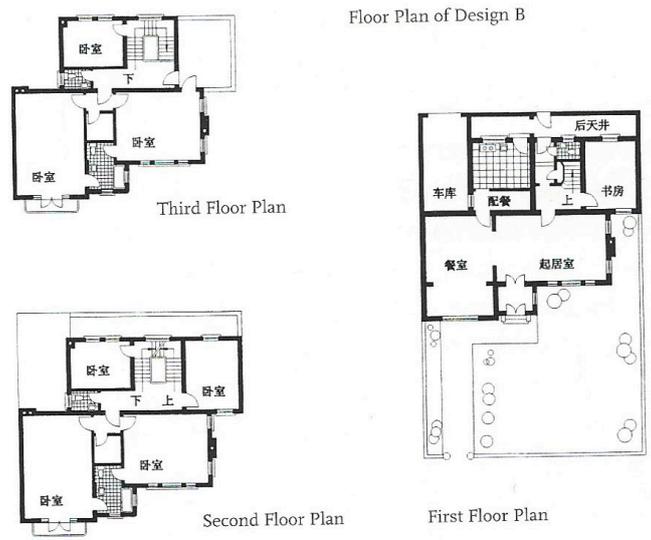


Figure 45 Garden Shikumen plan  
(Adapted from Rowe et al. 2001)

## *The Apartment Lilong*

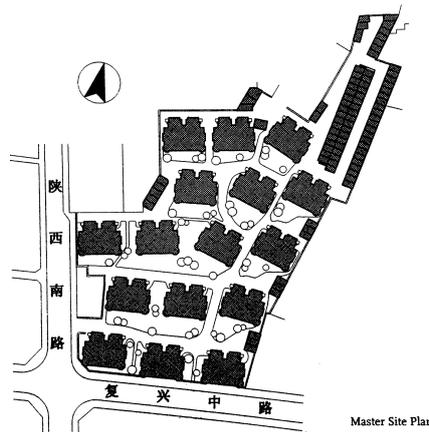


Figure 46 Morphology of Apartment *lilong* settlement  
(Adapted from Rowe et al. 2001)

More or less in the same period of Garden houses, this new typology emerged to accommodate middle class, both families and staff. As said Shanghai was experiencing a rise in prices due to the shortage of land availability related to a growing house demand. The advance in construction technology made possible the construction taking advantage of the vertical dimension. Apartment *Lilong* reached 6 storeys, setting a precedent for patterns used in contemporary China both in house type and general settlement morphology.

Apartment complexes could or could not have a grating defining the border of their plot; where not it was the urban tissue to define the edge of it. Again the main gate was characterized by a check point.

Due to the decreasing number of buildings the traditional hierarchy of alleys went lost. On the other hand the relation between open spaces and buildings became more flexible and somehow organic, in consideration of circulation needs, keeping distance from the previous east-west or north-south alignment. The new space resulting from this new building-street relation was often devoted to common space, used as equipped or green areas.

Along the main street the basement was sometimes reserved for shops sometimes run by residents.

An implicit change resulted from high-rise buildings was to get rid of the courtyard. In its place, of course with a different role in terms of lifestyle, each apartment had a balcony. This can be considered a further moving away from the traditional sense of family.

In the case of apartments all the elements, as alleys, that in previous configuration were outside the dwell are now internal to the building: lobbies, staircases, corridors and elevators are the features we can consider as new in Chinese house's architecture. Size apartments ranged from 40 to 150 square meters, taking complete advantage of the floor space.

The smallest units had the standard rooms as kitchen, living room, washroom and bedroom, while bigger dwells had additional spaces as dining rooms and servants' separate areas.

Taking in account the internal organization we can observe three different building strategies. A row-pattern model with a rectangular layout with two to six apartments per floor; in this case there was a main staircase and a secondary one used to connect units to the facilities at the back of the building.

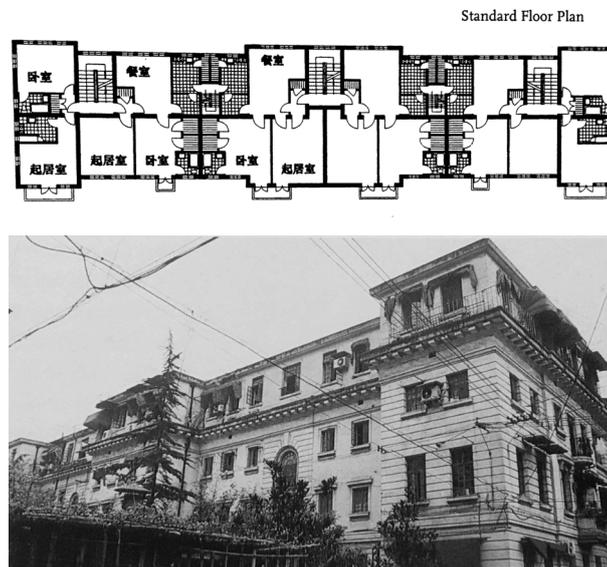


Figure 47 Row-pattern Apartment *Lilong* standard plan and photo  
(Adapted from Rowe et al. 2001)

The dot-pattern was characterized by two units per floor and an overall slimmer volume. Front and back acmes were shared leaving the possibility to freely collocate windows and balconies compared to the row-pattern solutions.

Butterfly-pattern derived from the latest one, and some implementations can be observed. Usually it had four apartments per floor, a central core area, with north access, providing the general floor distribution. Main rooms were normally located at the corners, leaving windowless spaces near the stairs to the functional activities. In some cases a second staircase was added every two units.

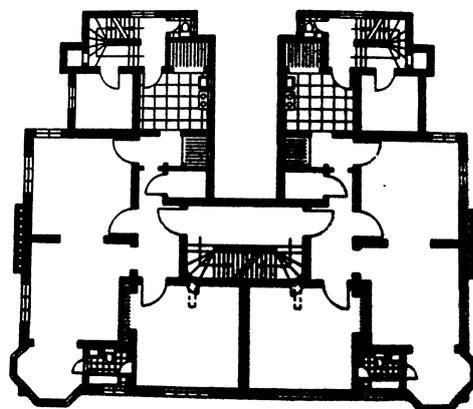




Figure 48 Dot-pattern Apartment *Lilong* standard plan and photo  
(Adapted from Rowe et al. 2001)

Reinforced concrete and machine-made bricks were particularly important to reach the goal of durable and multiple storey buildings so were used to build the structure; in contrast, to obtain lighter internal partitions, constructors took advance of hollow bricks. The waterproof layer become common to better isolate the flat roof.

## 2.4 The unique ideology (1949-1978)

This phase is characterized by significant transformation mainly from the political point of view. Even if this phase lasted only 30 years, it counts three important stages for the social, economic and urban situation that, undoubtedly, influenced contemporary cities as well. The first one corresponds to the first ‘Five years plan’ (1953-1957) focused on increasing industrial production, from the urban point of view was also characterized by a pragmatic approach to housing development, focused on standards and leaving apart aesthetics. But somehow there was a balance between house and industrial development. The second stage, begun with the Great Leap Forward (1958-1965) and urbanization in terms of house development was sacrificed in favour of reaching production goals. During Cultural Revolution (1966-1978) we observe a third stage. The cultural and social turmoil was so overwhelming that housing production stopped completely.

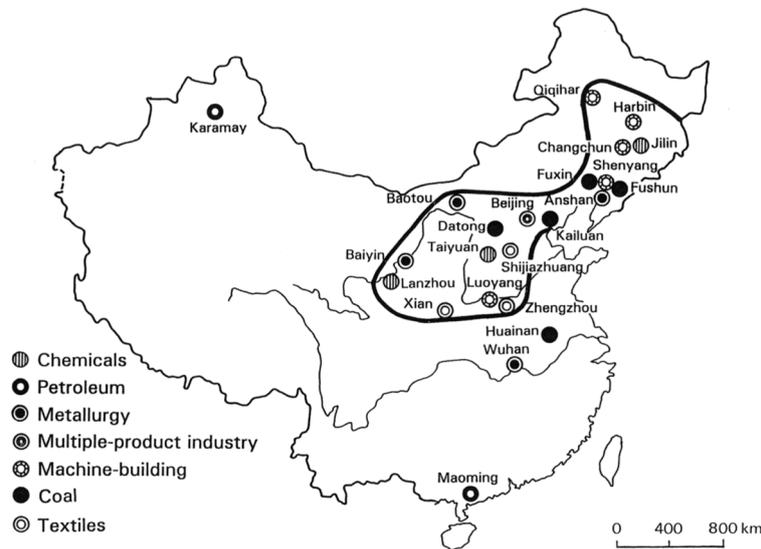


Figure 49 Industrial Centers in 1950  
(Adapted from Sit 2010 p 252)

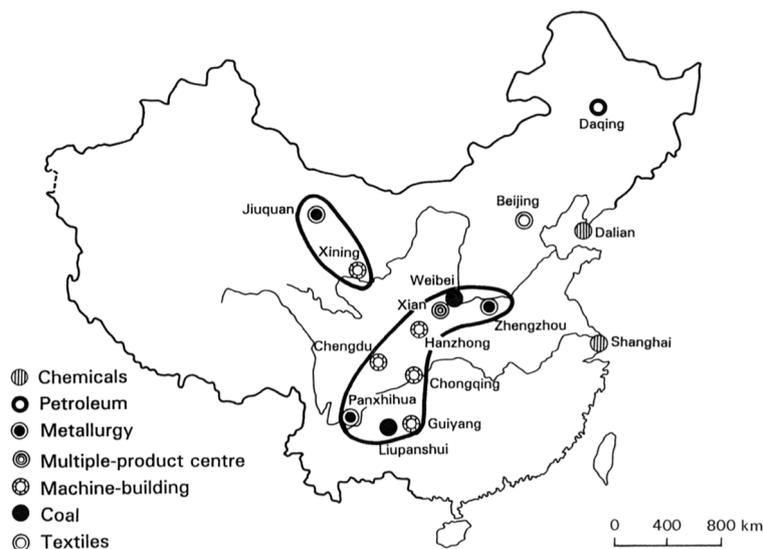


Figure 50 Industrial Centers in 1960  
(Adapted from Sit 2010 p 253)

The ideology of the Chinese government is a new one, even if some seeds were already readable in legalism, it's "*a product of its centuries-long disenchantment with Neo-Confucianism*" (V. F. S. Sit 2010). From the urban point of view a mix of ideologies were applied to Chinese domestic context<sup>74</sup> giving back a process difficult to be analyzed. Ma (1796) and Tawney's (1996) (cited in V. F. S. Sit 2010), pointed out the PRC conducted a policy of de-urbanization and anti-urbanization, but a different vision was given by Kirby's (1993) (cited in V. F. S. Sit 2010), who described a different strategy oriented to favouring industrialization using cities as main nodes for modern manufacturing. Claiming "*New China's cities must serve socialist industrialization*" Mao made his strategy evident and adding the following features he made it effective: 1) The disperse of the 'ills' of the past, specifically the concentration of industrial activities in coastal cities and Treaty Ports 2) Turning cities in productive and not only consumptive sites 3) cities should be a vehicle to eradicate the three main dichotomies town-country, manual-mental labour, agriculture-industry 4) cities should be the place of socialism and nationalism (ibid.).

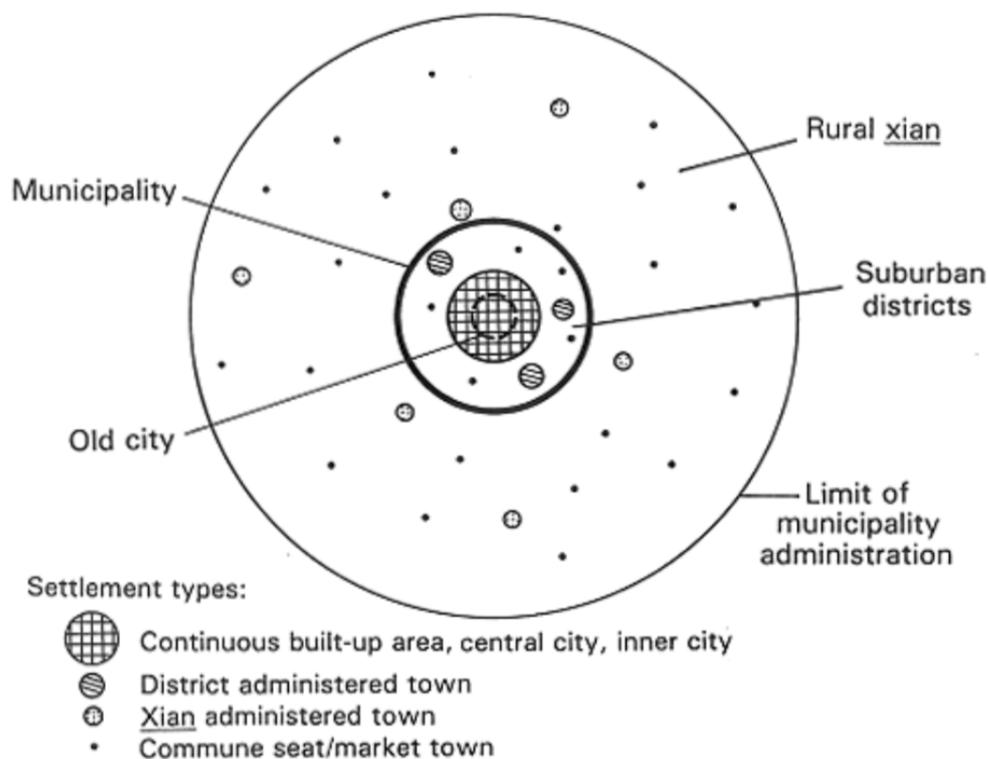


Figure 51 Spatial organization of the Chinese City around 1958  
(Adapted from Sit 2010 264)

<sup>74</sup> Mao Zedong, in-fact, combined somehow the values of Stalin, Marx and Engels for many aspects. In Marx and Engels cities were considered the enemy, on the other hand Stalin considered cities as a resource, a solid basis for socialist enterprises

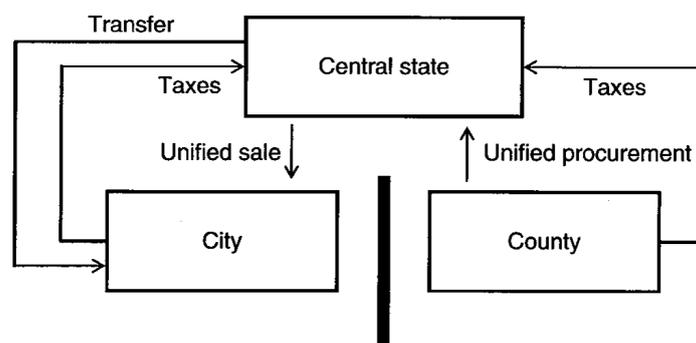


Figure 52 Urban-Rural resources allocation under State Socialism  
(Adapted from Wu and Gaubatz 2013 p 262)

The social structure of the city, as well, was modified and a number of socialist features could be observed:

Many ‘traditional symbols’ and the power of the past were destroyed. Temples and imperial palaces got lost and the previous configuration of the city did no longer exist. In many cases the process of modification was more a reconversion of productive places as local factories. As Terzani explains the changes of Beijing (Terzani 1998) to transform it in a productive city, temples were used for their big yards and open spaces. Using the policy of *ji* (i.e. push away), many temples were gradually ‘encouraged’ to become productive sites: a party unit arrived inside the temples with some machines and a lot of courtesy (ibid.), asking for a small inside space to work then this space increased time by time. The result was, often, the complete occupation of the temple, the appearance of smokestacks above the colorful temple’s roof and the moving away of the monks. This process achieved two main goals, first of all gave a contribution to the city production and secondly left less space to religion. The strategic position of the old special elements helped in the transition that the city will experience.

The political change was directly related to the new city’s organization taking as inspiration, but only in a very preliminary phase, the Soviet experience. The traditional symbols were substituted with new governmental buildings in monumental style. Western CBD and traditional Chinese *yamen*<sup>75</sup> were substituted with a ‘Stalinesque’ (V. F. S. Sit 2010, 248) central square. During this phase China was looking for its own architectural style experimenting a mix of traditional and international details as ‘the big roof’ (Rowe, Lü, and Zhang 2001) often used in public buildings as sign of national self-esteem.

The rapid nationalization of urban economy, infrastructure and services was a heavy force acting on the city as well as organized migrations<sup>76</sup>; the formalization of the *hukou* system, in 1958, was an additional stress on the city structure. People’s life was built around the work units, so called *danwei*, in which work and leisure activities coexisted. The vocation of each work unit was different, soft and heavy industries producing metals, electrical parts, machines, clothes but also

<sup>75</sup> Residence or office of an administrative person from government in imperial China

<sup>76</sup> Urban to urban migration in support of new industries and urban-rural migration to correct mistakes from central planning and the equilibrium between industrial and agricultural sector

education, Universities<sup>77</sup> were also considered *danwei* with their own services and houses for workers inside. The big change in terms of balance of the city was that the structure of the work units operated in continuity with the traditional systems of mutual help and community organization, wanted to reach not only the equality between people using different wellbeing instruments but also a sort of autonomy of the ‘village’ in itself. Surely this process resulted in a more fragmented city, described by boundaries and streets, a ‘cellular structure’ (W. Wu and Gaubatz 2013). We might consider this as a change also in mobility<sup>78</sup> inside the city, moreover because the number of people not belonging to a *danwei*, and so still interested in moving from the house to go to work, for example, was reduced (ibid.). As Zhang reported (Li Zhang 2012) inequalities appeared firstly between different work units but also inside each *danwei*. The different size and type of activities of the unit gave it the possibility to earn more money and build better housing or provide more services (W. Wu and Gaubatz 2013). Households’ access to all services was neighborhood-based, and the attribution to a certain work-unit was centrally decided following production necessities. Moreover also inside the unit itself, even if there was a standard system<sup>79</sup> in housing attribution, some difference in treatment happened. During this period the type of building changed as well, the necessity of having more people inside a specific place led to think of new living habits and building typologies. The traditional house was not functional enough to accommodate a growing number of people. Inside the *danwei* the usual typologies were dorms and small apartments, sometimes located in small condominiums of 3 floors.

The location was an irrelevant factor, both from the economic and social point of view. Without land market rules, there was no need of taking it in account. On the other hand production sites where the focal point in terms of spatial allocation of residences to minimize people movements.

The private ownership was discouraged and the state gradually acquired<sup>80</sup>, sometimes using force<sup>81</sup>, all private houses keeping control of housing allocation and development. Anyhow in terms of public housing, it was not only in charge of the work unit, but a second type of houses could be detected, managed by some relevant city’s department.

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<sup>77</sup> Tsinghua University in Beijing is still conserving part of its work unit appearance

<sup>78</sup> In terms of residence turnover

<sup>79</sup> Based on number of people in the family and type of work

<sup>80</sup> From 1949 to 1956, indeed, the majority of houses were still private owned. A gradual shift of policies was applied by the government that, from 1956 start to use a more vigorous strategy to shift ownership in cities (Rowe, Lü, and Zhang 2001, 114)

<sup>81</sup> See “La porta proibita” (Terzani 1998) in the case of the traditional houses in Beijing

## The city of cells

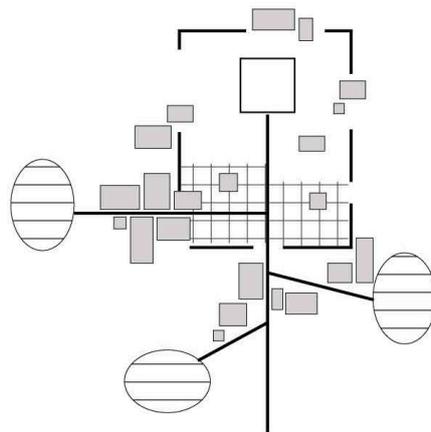


Figure 53 Morphological Scheme 1949-1978  
(by the author)

In terms of urban form this tumultuous political period drove the city to be structured around three main features: large compounds, broad boulevards and out of scale (Fei Chen and Thwaites 2013, 34) civic squares.

Considering the whole urban fabric and its configuration it is important to consider that the *danwei* morphology was flexible in terms of juxtaposition to the other cities elements as much as static in its internal typologies. We can indeed distinguish the new work units built outside to city, usually along main roads, and the ones located into the old city where, due to land shortage, the planning was only partially new. It is anyhow important to consider that an important goal of the work unit in terms of wellbeing was its self-sufficiency: this target necessarily influenced the city and neighborhood structure. The sense of community that the *danwei* attempted to achieve might remind the traditional imperial structure characterized by boundaries and fragmentation. Even if the concept might be comparable, the scale of the work unit and the work villages was quite different from the traditional *hutong* defining what we call today a super block. This spatial configuration necessarily reduces the legibility of the space and the urban interaction between people due to a strong change in permeability. Moreover, since facilities were provided by each workplace, the street was no longer considered a aggregation space, even if the shift from alleys/roads to boulevards provided a wider space, yet devoted to vehicles.

Large squares were planned, following the Soviet model as in Moscow, mainly to highlight the superiority of socialism and its achievements<sup>82</sup>.

The urban space was essentially a cellular structure based on semi-independent work unit compounds (F. Wu and He 2005). In addition, extensive old urban areas, characterized as said by low-rise and dense fabric, persist as legacies of the pre-socialist period. In new settlements the living quarters were

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<sup>82</sup> An example is Tienanmen square in Beijing

located as close as possible to the workplace to save travel time. Because, as said, often new work units were located in suburbs like small dots (Rowe, Lü, and Zhang 2001, 115) along the street, facilities provided by the local government were not easy reachable. Land was indeed given free of charge by the Bureau, that, on the other hand had no funds to improve the basic facilities that were on each enterprise. Because of that, each new site became a sort of independent village. A different morphology characterized the units located inside or close to the old city, these *danwei* were anyway introvert villages but necessarily more malleable in terms of relation with the surroundings due to the impossibility of extensive land portions. Moreover it was more common to have the living area not attached to the working area and, in some cases, different enterprises shared the same houses compound (F. Wu 2005). Differently from the ones in new settlements, here the facilities were often already present thanks to the local government. Sometimes also the traditional urban fabric, composed by courtyard houses, was densified subdividing a single house, used by a single family, in a multi-family dorm.

Two main plot arrangements shaped the city in this phase: the perimeter block and the parallel one. Higher residential buildings, compared to those in the latter, located along the block's borders, usually composed the former. All residences acted as a filter for the internal public activities. This configuration, derived from soviet models as well, had a strong sense of order (Rowe, Forsyth, and Kan 2016, 55). Parallel configuration usually had two to five storeys and a north south orientation, the distance between buildings was studied to allow the first floor to receive light and ventilation, so it was directly dependent from the height.

In 1957 (Rowe, Forsyth, and Kan 2016, 58) the efficacy of both arrangements was evaluated and, eventually, parallel north-south arrangements seemed the solution that better fit in Chinese context<sup>83</sup>.

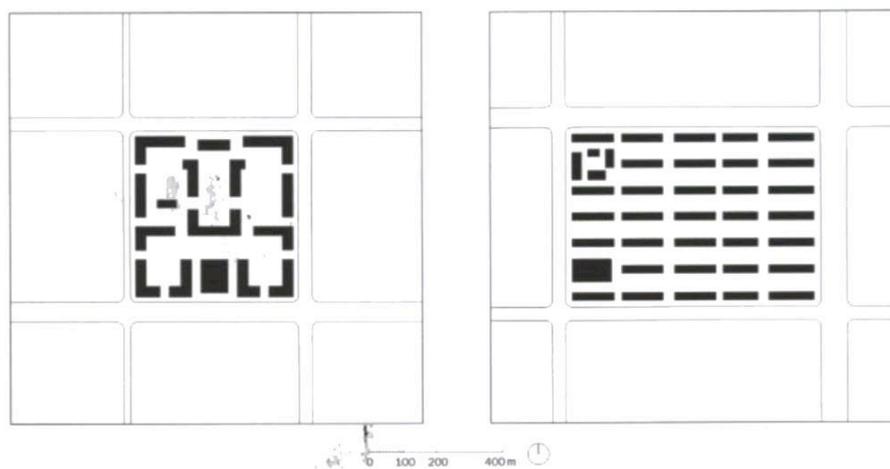


Figure 54 Perimetral Block (left) and Parallel Block (right) arrangements  
(Adapted from Rowe et al. 2016 p54)

<sup>83</sup> The perimetral block was considered less suitable in terms of climate and living habits compared to the parallel one, mainly because half of the housing had an East-West direction instead of the traditional north south one. The 'on edge' assessment was, moreover, noisy in terms of sounds coming from the street and too stern for many inhabitants

## **The Parallel Block Units: The new module of homogeneity**

Due to the change in structure and density of the cities the need of houses grew up but because there was no market need of high-density/low-land structures as skyscrapers, sprawling/medium-low density landscape was the main feature of the new house typology.

At the level of house module the Soviet influence was recognizable as well. A former house standardization was introduced in china around 1952. Specifically the single unit was part of any configuration becoming a residence when it was connected, using stairs and facilities, with other units. Modules were aggregated in parallel buildings characterized by internal or external corridors, with apartment's entrances faced on. If the first re-elaborated version of the standard dwell (1953 and 1955) was considered not sufficiently functional in terms of sun and ventilation, in this period indeed apartments were shared by more families<sup>84</sup> so each family had two rooms. It was impossible, following the standard design, to accommodate each family in north-south oriented rooms. So, some variations were studied to solve these issues: in the 2-2-2 arrangement each family had a room facing south and a balcony, that became an important feature and not anymore a mere decoration as in previous projects. In addition new experimentations, as the open corridors, were considered. The corridor was located north with the kitchens and washrooms, trying to take advance of the south facade for habitable areas and balconies. This new configuration was particularly helpful in giving to each family a separate apartment with a walkway entrance. Even if from the developer point of view the open corridor, because it was quite long, resulted as a wasteful space, it was welcome by the residents who used it as storage extension (Rowe and Seng 2005, 133). Building width was around 10/12 meters, with a 2.8 meters internal height. Bricks and wood and bricks and concrete were the preferred materials at the time. Where possible, prefabrication appeared as a good time and money saver both in production and construction phases, but often block masonry and bearing walls collaborated at the structure and were installed on site.

Around 1958<sup>85</sup> the inconveniences of shared apartments types were emphasized more and more; from now on the idea of smaller but fully independent apartments was pursued driving to new design and standards as well. The 9 square meters per person<sup>86</sup> was not, and will never be, achieved, indeed in this period it dropped at 3.6 square meters from the 4.5 in the first stage of People's Republic (ibid. 155), even if with smaller rooms new apartments configurations were designed to reach the scope and overcame the previous 'long corridor' issue.

During Zhangjiang (1961) and Wuxi (1963) conferences, further attempts of outrun from Soviet model, to achieve more local design, were presented: houses

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<sup>84</sup> These buildings were considered in some way temporary, fast to build, solution to face the shortage of housing

<sup>85</sup> Year of the 'Forum on housing standards and architecture'

<sup>86</sup> Soviet standard

with small internal yards suitable for hot places, east-west orientation for cold ones, internal yards combined with increased depth to economize the land, split level or independent apartments to be used on complicated terrains (Rowe and Seng 2005, 159).

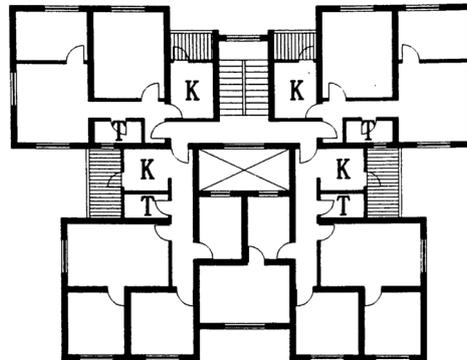


Figure 55 Experimental Inner yard apartments in Shanghai  
(Adapted from Rowe et al. 2001 p 160)

After 1960 also the commerce started again to be part of the residential fabric, and some building types with shops located on the ground floor appeared. This was also useful to give back “social street life” to the parallel arrangement that, as said, compared to the perimetral one was less able to create a relation with the street.

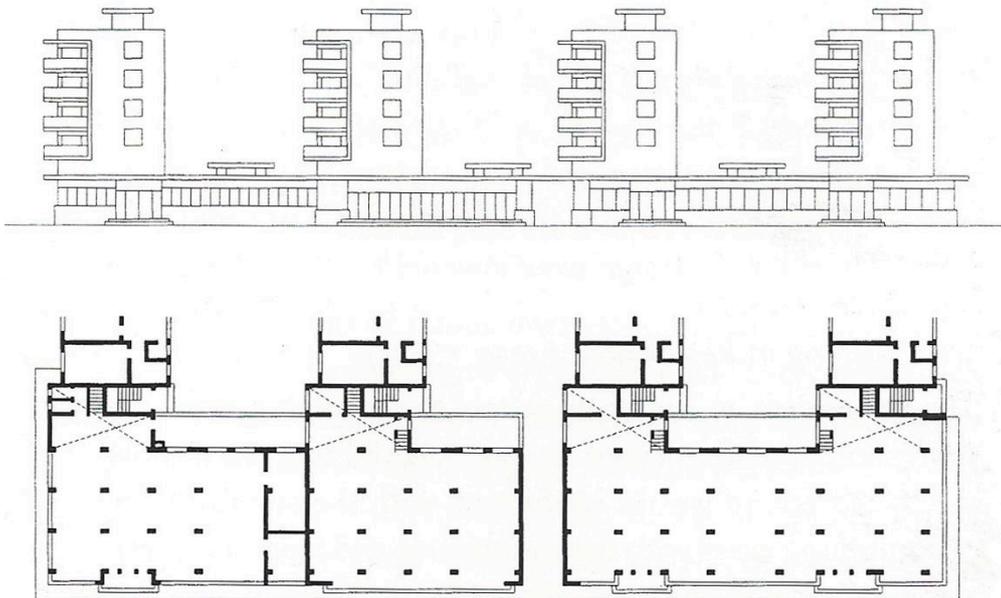


Figure 56 Residential Blocks with ‘slab’ commercial activities at the base  
(Adapted from Rowe et al. 2010 p 161)

The parallel building arrangement was slightly changed, reaching a U shape, to cope with the necessity of communes, a living concept already experienced in the Chinese history (e.g. Fujian province round houses), that reached the maximal organization during this historical phase.

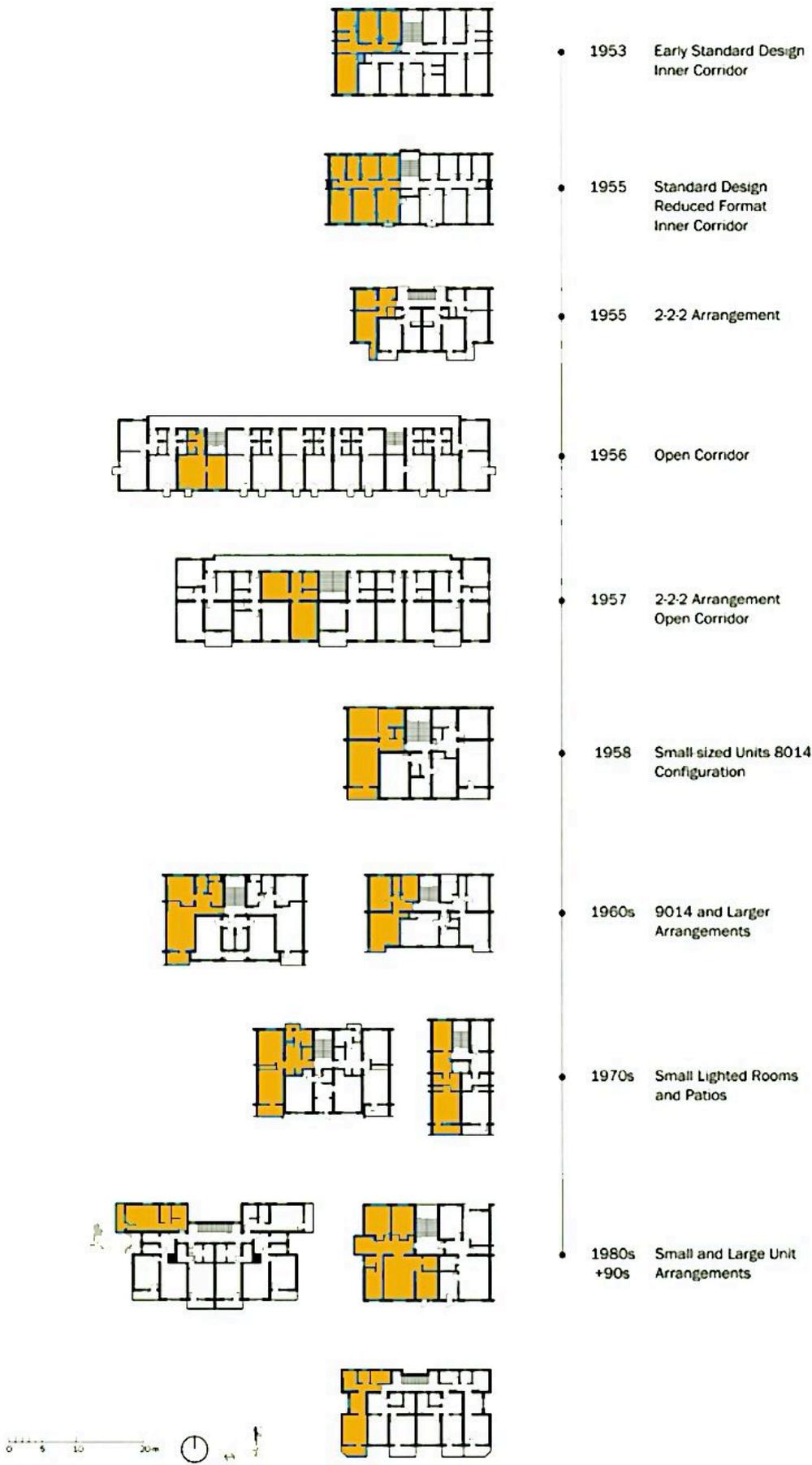


Figure 57 Parallel block and single apartment evolution  
 (Adapted from Rowe et al. 2016 p 57)

## 2.5 The open market (1978-2000)

The so called post-reform period, begun after 1978 when the Chinese government decided to act gradually on the welfare system. Since this moment the so called ‘transition period’ led the country from a public welfare organization to the private one. One of the first reforms concerned the *danwei* system in which people were finally able to buy their own house charged at a symbolic price. Social and economic inequalities, already traceable in the socialist era, rose up. For the lucky families able to buy a propriety, typically the unit’s apartment they already occupied, a path of gradual richness improving started (Li Zhang 2012). It is interesting to notice that most house owners were first-time homeowners so they were experiencing a life paradigm shift<sup>87</sup>.

Real Estate became increasingly important to pursue the objectives defined by the fifth and subsequent ‘five-year plan’.

As Rowe (2001, 229) highlights, around 1980 the State Council identified real estate as the first producer and organizer of “comprehensive development”, referred to the complete project’s arrangement starting from the survey phase and leading to road infrastructure and local supplies as power, gas and water. Before the reform this process was conducted by the state through *danwei*.

The enthusiasm for the opening policies to the world economy, made evident the importance to create strategic areas, physically limited but economically open, where to experiment the reforms. This has been the case of the Special Economic Zones, firstly located on the Guangdong’s Province coast, where the new era of Chinese development has been ‘tested’. In these cities the flow of international and domestic capitals was facilitated by the goal of stimulating growth, also taking advantage of the foreign technology and direct investments. To pursue this goal, in 1984, 14 additional cities<sup>88</sup> has been identified as ‘open cities’ by Deng Xiaoping. Many of these were Treaty Port Cities at the beginning of the century and they have been devoted to re-establishing the foreign investment pattern. This phase allowed certain places to become rich first, highlighting again the importance of coastal cities in comparison with the inner ones. All four SEZ were located along the coast, a strategic position in terms of easy separation from the inland areas. Fences and checkpoints were built to inspect people and goods movements. These areas were also established as ‘buffer zones’ pursuing a long-term plan of future reunification with Taiwan, Hong Kong and Macao. This certainly added a political value to the operation.

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<sup>87</sup> From Maoist socialism to a new concept of private life

<sup>88</sup> Beihai, Dalian, Fuzhou, Guangzhou, Lianyungang, Nantong, Ningbo, Qinhuangdao, Qingdao, Shanghai, Tianjin, Wenzhou, Yantai, Zhanjiang (Gong 2013)

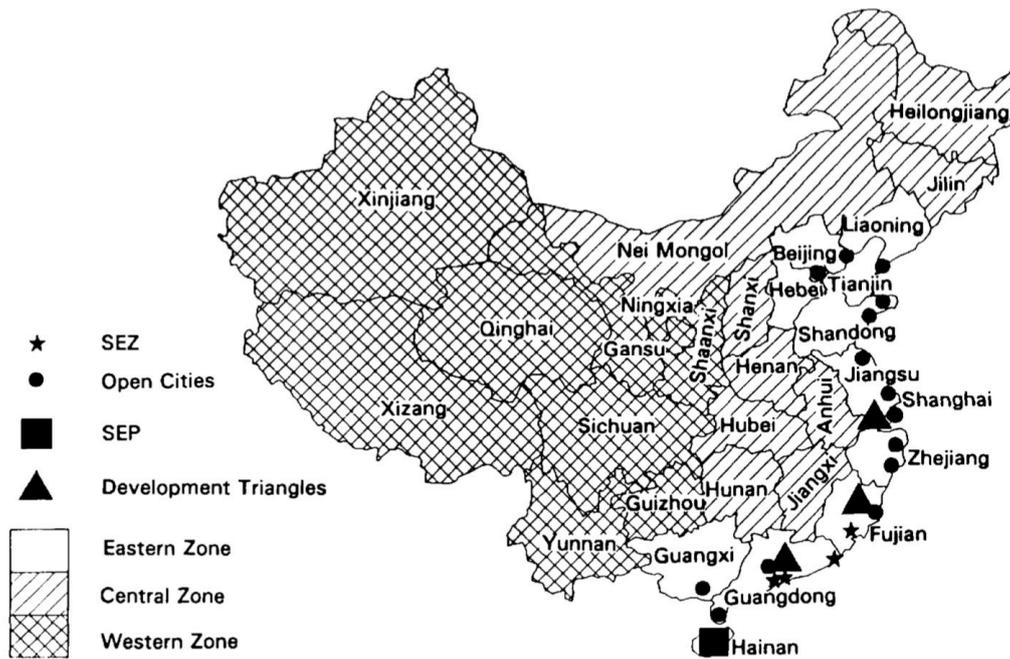


Figure 58 Open Cities and Special Economic Zones  
(Adapted from Gong 2013)

A reiteration of the SEZ concept took place in the rest of China where Science Parks and Technological Development Zones mushroomed to allow research institutes and firms to collaborate, taking advantage of a unique location and special incentives.

Chinese industrialization, if compared to Western ‘standard model’<sup>89</sup> (Rowe and Seng 2005), had different features. In China, mainly referring to the first phase of the industrialization process, we didn’t observe strong migration flows from the rural areas to the cities. These flows, at the beginning, were absorbed by in loco collective activities. As a consequence, the urbanization’s levels remained stable creating less opportunities of improvement to the architecture sector. At the end of the Twentieth century the percentage of city’s population in China was around 35%, quite low if compared to the 84% of Australia and 78% of Japan and USA<sup>90</sup>. Also the density of the largest cities as Guangzhou and Shanghai seemed not comparable with other international cities of the same national importance. As the ‘Asian Urban Model’<sup>91</sup> (ibid. ) describes, in this period there was a high density in peripheral rural villages, spatially sprawled, characterized by small communities and both agricultural and non-agricultural activities.

<sup>89</sup> According to this model, indeed, the industrialization process is able to diversify the labour division creating new opportunities as an answer to new social needs and ambitions. This process led people to move from agriculture to factories implementing the size, organization and services of the city and the number of cities dealing with this process.

<sup>90</sup> Charles Goddard, *China Market Atlas*, 1997 Edition, Economist intelligence Unit, Hong Kong 1997, pp.123-128

<sup>91</sup> Ginsburg, Norton, Bruce Koppel, and T G McGee, eds. 1991. *The Extended Metropolis*. Honolulu: University of Hawaii Press.

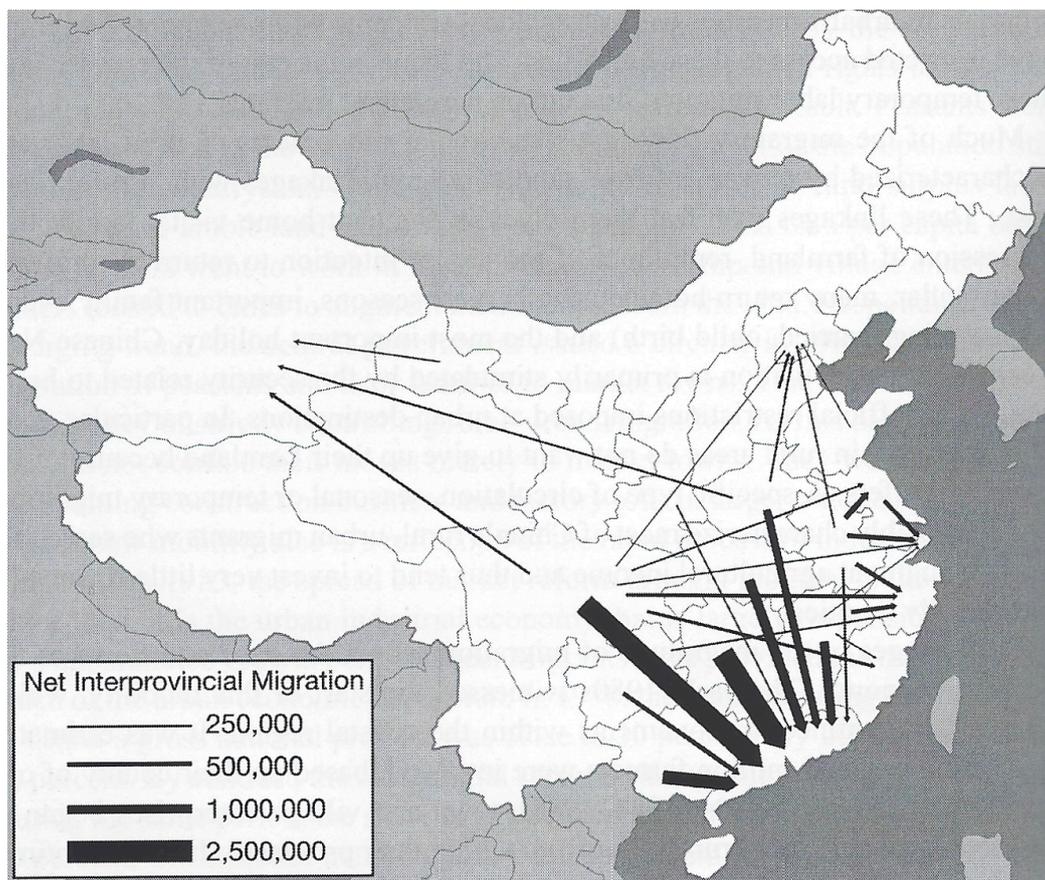


Figure 59 Net interprovincial flows migration 1995-2000  
 (Adapted from Wu and Gaubatz 2013 p 100)

This situation drastically changed in the last 10 years of the century. Even with a time delay, China is nowadays quite comparable with the standard model mentioned before thanks to a second industrial revolution started in 1998. The expansion of the train system with high speed trains, 2.6 millions of public roads were built including 70.000 miles of express highways (Yi 2016), the strong migration of workers from rural areas to the city, the visible expansion of the major cities, standardized the Chinese industrialization changing the perception that researchers as Rowe (2005, 185) had about the Chinese processes. In the meanwhile China experienced a reform in agricultural production that led to the migration of surplus rural laborers in cities. In comparison with the previous period, characterized by a completely centralized economy, this phase launched a decentralization of power especially in terms of local decision making. This was done not only to lighten the state's burden but also to motivate enterprises and people to have better economic results. Profits were given back to enterprises stimulating local economy and growth.

State-owned enterprises gradually turned into independent entities, due to a series of government's measures as a fixed allocation of funds per year per unit. The management of those funds was on the unit, if not sufficient the unit itself was in charge of finding other funds (195). Enterprises became a key link in transferring expenditures and welfare. In 1983 an increase in house demand shook the construction system due to a growth in the level of urbanization that jumped from 17.92 in 1978 to 21.62 (196).

Anyhow in this phase *danwei* is still the principle vehicle through which social welfare is allocated. This highlights the fact that Chinese economy is still dominated by public ownership even if allocation is increasingly based on market forces (ibid. ). The differentiation in terms of resources of the single *danwei* was, as said, already considerable but the gap, in this traditional phase, usually increased. It is now even easier than before to identify a rich or poor *danwei*.

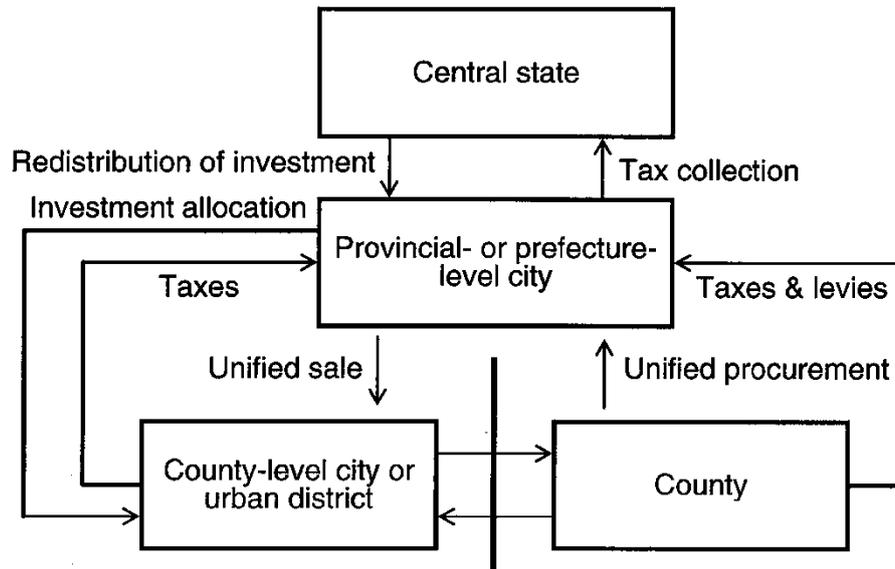


Figure 60 Urban-Rural resources allocation under Market Reform  
(Adapted from Wu and Gaubatz 2013 p 262)

More importantly this led to a deep discussion around the nature of housing: people were focused on understanding if the dwell should be considered as a welfare or a commodity good. Gradually people began to think at houses as a commodity and reflect on the possibility that a progressive discarding of housing as welfare might drive to a rise of salaries, finalized to buy houses, with a consequential increase in life quality.

Definitely the transition has been slow and not always stable throughout the 20 years in analysis, *“proceeded through a series of phased actions, not the result of grand strategy, but immediate responses to pressing problems”* (W. Wu and Gaubatz 2013, 111-2). In particular, after 1984, even if a number of reforms were shifted to the cities, drastic fluctuations accompanied economic growth, sometimes affecting the reforms’ outcomes. Three financial contractions occurred between 1984 and 1991, the preceding framework of planned economy was indeed a heavy burden to be balanced by the state in the fulfilment of the new policies. A rapid expansion of residents’ consumption was needed, while the state’s necessity was to maintain a certain level of accumulation, two contradictory aims.

In 1989 the need to improve the Chinese legal system was set down in a City Planning Act. It had the function of defining the structure, both in size and economical orientation, of a city but also to prepare city plans in order to meet the needs of development (Yeh and Wu 1999, 182). The Act envisaged the importance of the masterplan, devoted to functions and goals of the city, and the

detailed plan, fundamental to stipulate the urban district plan and let the different construction projects collaborate (184). In addition the Urban system plan, the strategic outline and the urban district plan (245) were used to regulate both the city-region and the urban district level. Moreover, the Act empowered the planning authority who earned the direct control on land<sup>92</sup> and procedures related to land. This rose the autonomy of single cities in the figures of government officials who actually had the power to develop or not specific projects. One major implication was that “*each locality attempted to construct its own world-class infrastructure in order to attract outside investments*” (Leaf 2004), and a consequent reduction in cooperation between localities.

As for the previous open up policy foreign investments played a significant role in the city’s development mainly thanks to the ‘leasing’<sup>93</sup> land operation that the new reform made possible.

Cities were also exposed to a quite fast urbanization thanks to surrounding land acquisition. In 1992, as an example, it was planned to lease 113,400 hectares but the actual development reached 240.120 hectares, causing significant loss in cultivable land (Rowe, Lü, and Zhang 2001, 251). From this observation it is also possible to understand why a few years later a real estate bubble blasted exposing the disorderly demand and supply that China was experiencing.

In 1994 the development of highways, that became recognized as an economic pillar, (Zacharias and Yang 2016) helped not only the overall economy but moreover the small manufacturers to flourish their business.

Certainly the reform defused central decision making with some social consequence as the informal shift in *hukou* system. The floating population phenomenon (Shaowei Chen and Liu 2016) started to influence the existing urban equilibria. This trend decelerated during the ’90 economic crisis and rose again after 2000 thanks to a new economic boom.

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<sup>92</sup> Before many procedures rely on economic planning

<sup>93</sup> Transfer use

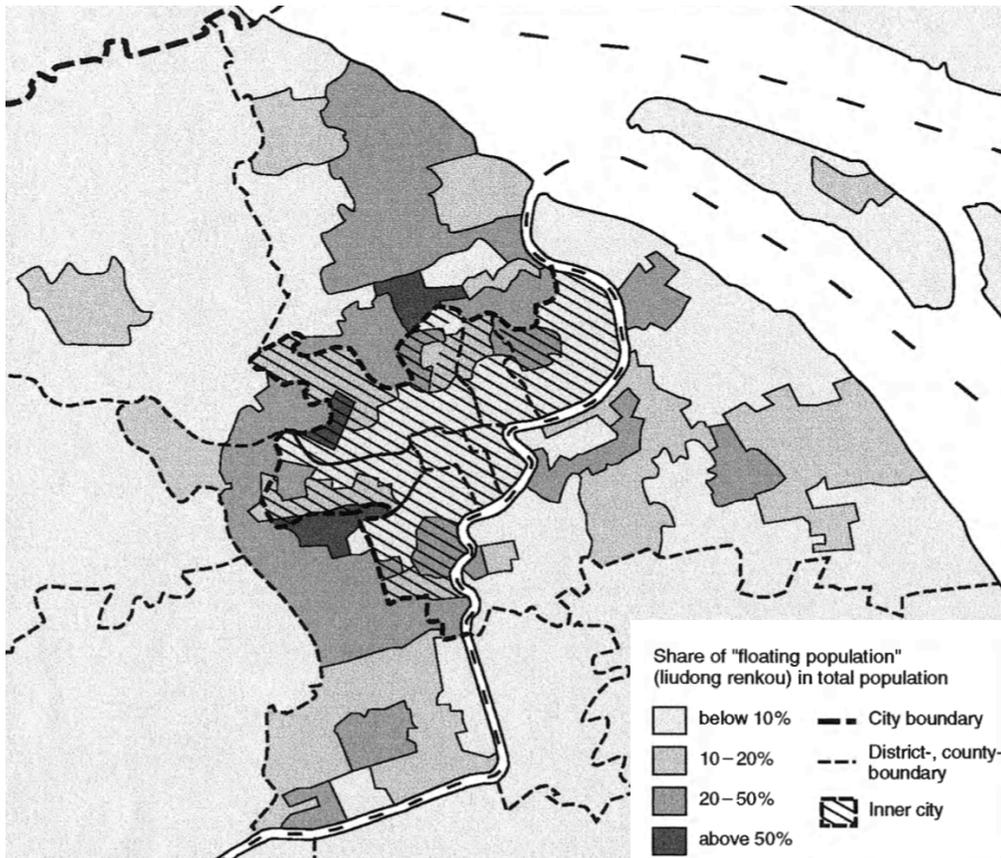


Figure 61 Floating population in Shanghai in 1995  
(Adapted from Logan 2002 p 193)

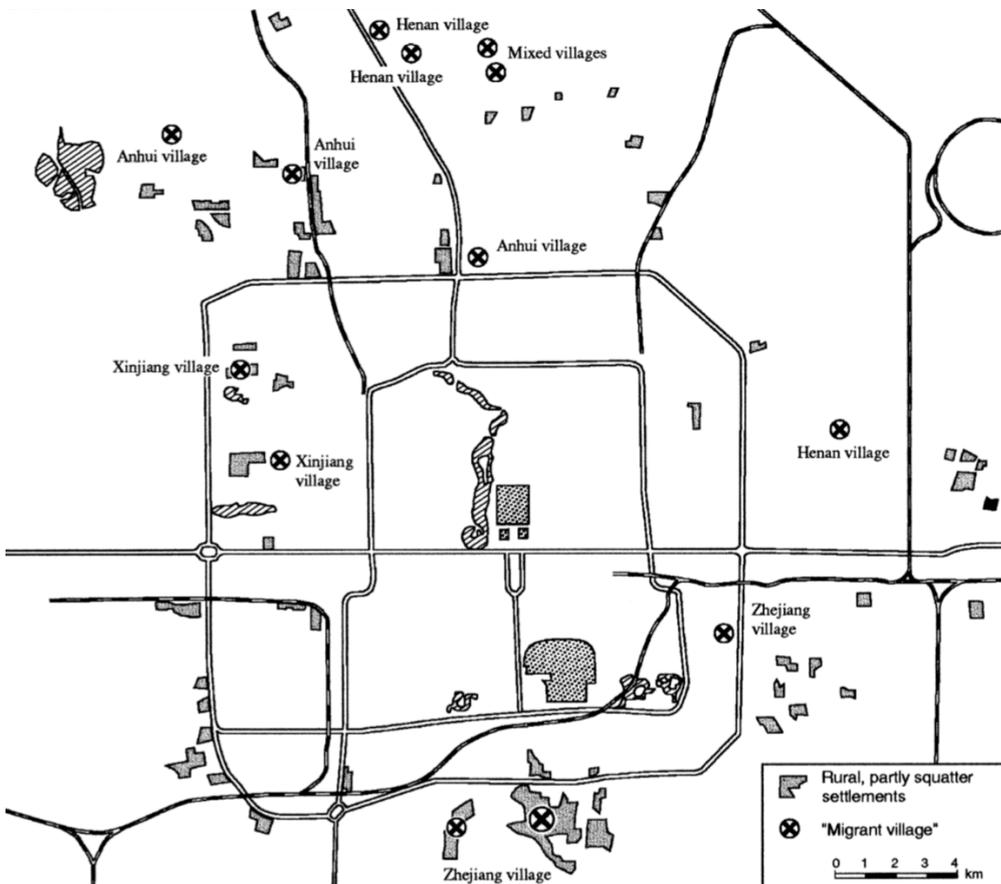


Figure 62 Migrant villages in Beijing  
(Adapted from Logan 2002 p 188)

In terms of social changes theft and crime such as murders, kidnapping and robbery re-emerged during the reform era in many Chinese cities (Li Zhang 2012, 103). This phenomenon somehow shaped the urban fabric due to the growing fear of the ‘outside’, that was not perceived during Mao’s regime. Boundaries acquired a different role in cities’ dynamics and gated communities rose to answer this emergent need of control. Even if urban communities are a legacy derived from imperial china (Abramson 2006), in this period the grouping around a certain space was more market than family oriented. Global externalities such as foreign investment, massive industrial development (C. Yang 2004), launch of global cities and global finance (F. Wu and Ma 2006; S. X. B. Zhao, Chan, and Sit 2003) influenced the built up form through new morphologies such as development zones and industrial parks.

It’s anyway very important, to understand the contemporary city conflict, having in mind that the system was still centralized for some aspects: one above all is the land propriety that, despite the reform, remained owned by the state. This inevitably influenced the processes of the city and, overall, the typologies and their forms in contemporary settlements.

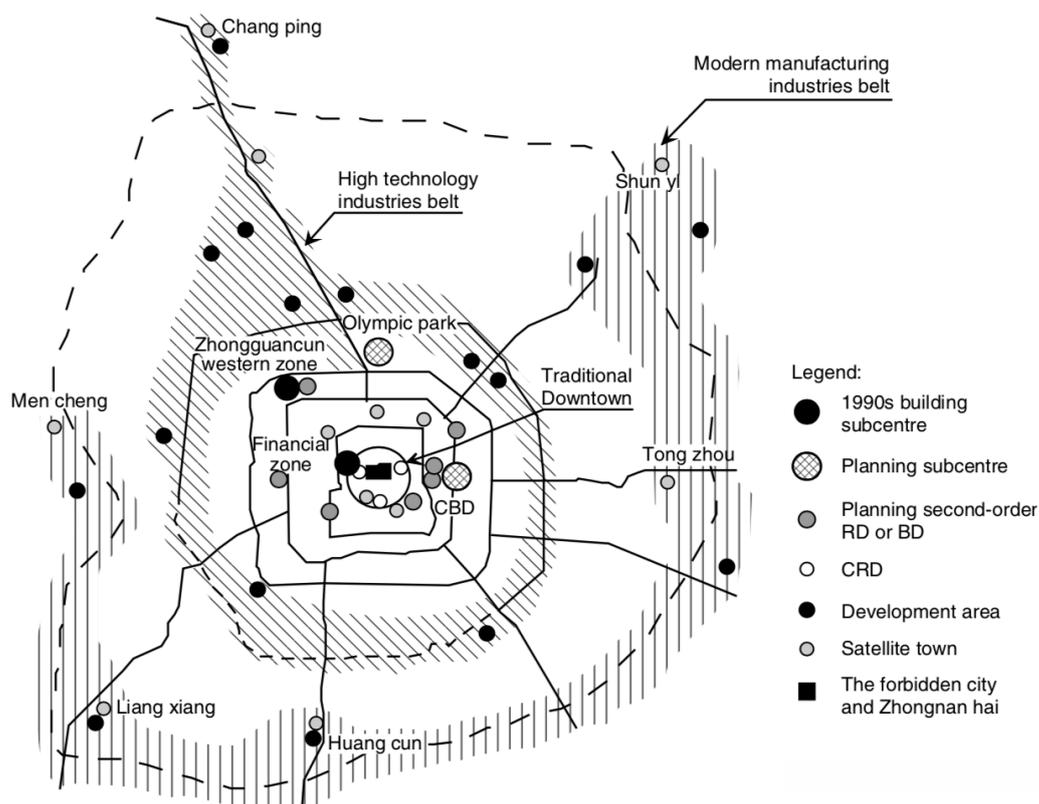


Figure 63 Beijing’ structure in the 1990s  
(Adapted from Wu 2006 p 73)

## The mega and super plots city

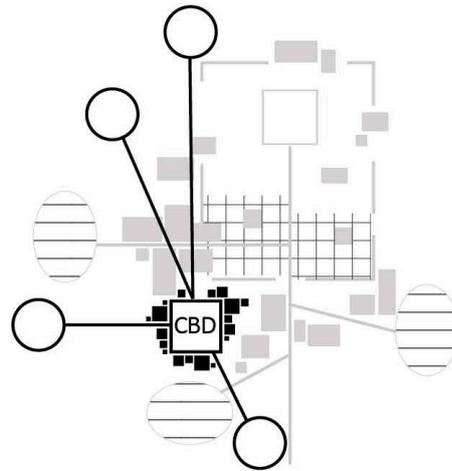


Figure 64 Morphological Scheme 1978-2000  
(by the author)

During the planned phase cities has been described as homogenous, due to the absence of central place theory (Malczewski 2009). In this economic period, on the other hand, the rise of new, and sometimes multiple, centers lead to cities in constant variation in terms of urban structures and dynamics. The position of the building and its relation with other building' position started to be fundamental both in market and cultural terms. The emergence of a land rent gradient (Ma (2002), from now on, will influence the residential allocation and the rise of new morphologies.

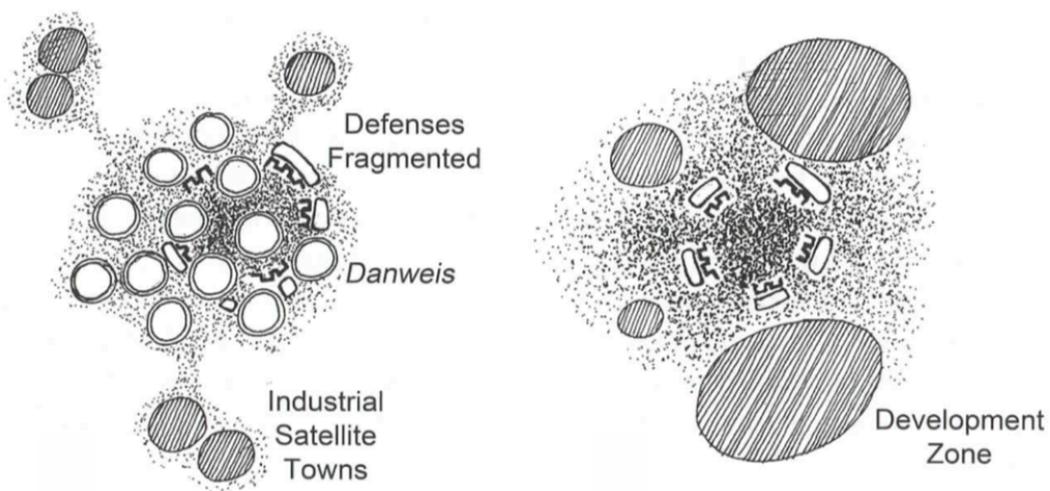


Figure 65 Chinese City transformation before (left) and after (right) 1978  
(Adapted from Chen and Thwaites 2013 p 43)

Scholars as Gaubatz (1999), Wang and Murie (1999) described the city at the beginning of this transition as the juxtaposition of three concentric zones: a pre-socialist central area, a planned work unit ring from the socialist phase and a new estates ring result of the 1985 property boom. This evolution of the city, that is

rarely readable nowadays due to the rapid development, is anyhow quite descriptive of the processes' layering experienced by many Chinese cities.

The compact Chinese City has led to a polycentric city, due to the rapid development of built-up area and the de-concentration of population. The link, very strong in past years, between work and living place became weaker because people were able to use more cars and public transport services, that was implemented, and allowed people to look for newer and bigger apartments in the new expansion areas. Thanks to those factors the city experimented a growing residential mobility, households can select their residence based on income level, price and preferences.



Figure 66 Major Cities with active CBD projects  
(Adapted from Zacharias and Yang 2016 p 612)

During this period many Chinese cities experienced a change in land-use pattern and a strong influence by the growing Central Business District in which the majority of the economic capital was condensed. The emergence of CBD cannot only be considered as a punctual capital injection in the city but draws along a number of changes in the urban structure. It is important to highlight that the central business district is defined as that part of the city where principal commercial streets and main public buildings are located. Even if in Europe, and

sometimes US, CBD and downtown are often considered as coincident, in China it is possible to observe the emergence of a CBD also far from the inner area<sup>94</sup>. In many cities, indeed, it is also possible to observe multiple CBD, the first one in the inner area and secondary ones in new development areas of the city. As Zacharias and Yang (2016, 611) claim “no other government-led project in China today better exemplifies the socialist market economy”: unlike CBD in Western cities, indeed, it is almost exclusively a project financed by the city to pursue its own purposes of expansion both in size and importance. The iconic value of CBD acquired growing importance for the local government. To pursue the goal of a business central area many cities worked to eliminate urban villages located in downtown. Morphologically the impact of the CBD spreads all around the main selected area. A zone of assimilation represents the area characterized by extensive redevelopment (Rice 2009), as physical representation of an economical decision, but a Zone of Discard (ibid. ) appears at the border of the assimilation area. The higher the demand for the central space, the more the assimilation area will be pushed and reshaped.

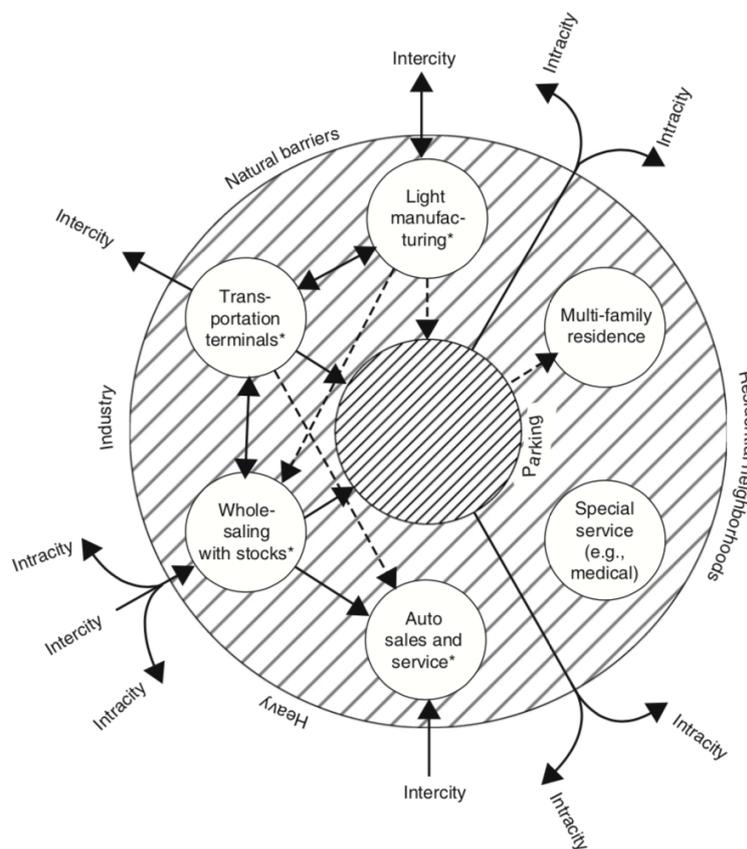


Figure 67 Core frame model  
(Adapted from Rice 2009)

Downtown and the central areas became specialized in hosting high-end inhabitants and elites but, because the land in these parts of the city were less viable, land prices grew influencing the morphology of these spaces. The urban

<sup>94</sup> The consolidated part of the city, usually the first point the city began to grow

fabrics become higher, to better use the space and allocate more people/firms, and usually arranged following a modernist approach (Fei Chen and Thwaites 2013, 40) that helped in managing the freestanding tendency of the new constructions. Due to the possibility of making profit from land, many *danwei*, the ones that had a better location, were able to completely or partially redevelop the space braking down the cellular structure that characterized the city until then. Anyhow each compound was surrounded by walls and characterized by a guarded main entrance, so it was quite common for new compounds near industrial parks or development zones, not to have a street facade but rearward buildings surrounded by open spaces. Residential enclosed neighborhoods (Huang 2013), in this period called gated communities, maintained an introvert organization, often with a less recognizable morphological relation to the city. The need of security and privacy can be considered as a social shift from the Maoist period, but consequences remained in people's lifestyle more than in changes of housing morphology. Gating, in terms of controlled and walled residential areas, was strongly embedded in Chinese city's culture so, even if the significance that people gave to new communities changes, the physical form of it has been much more modified by the technological improvement, as prefabricate and elevators, than by policies.

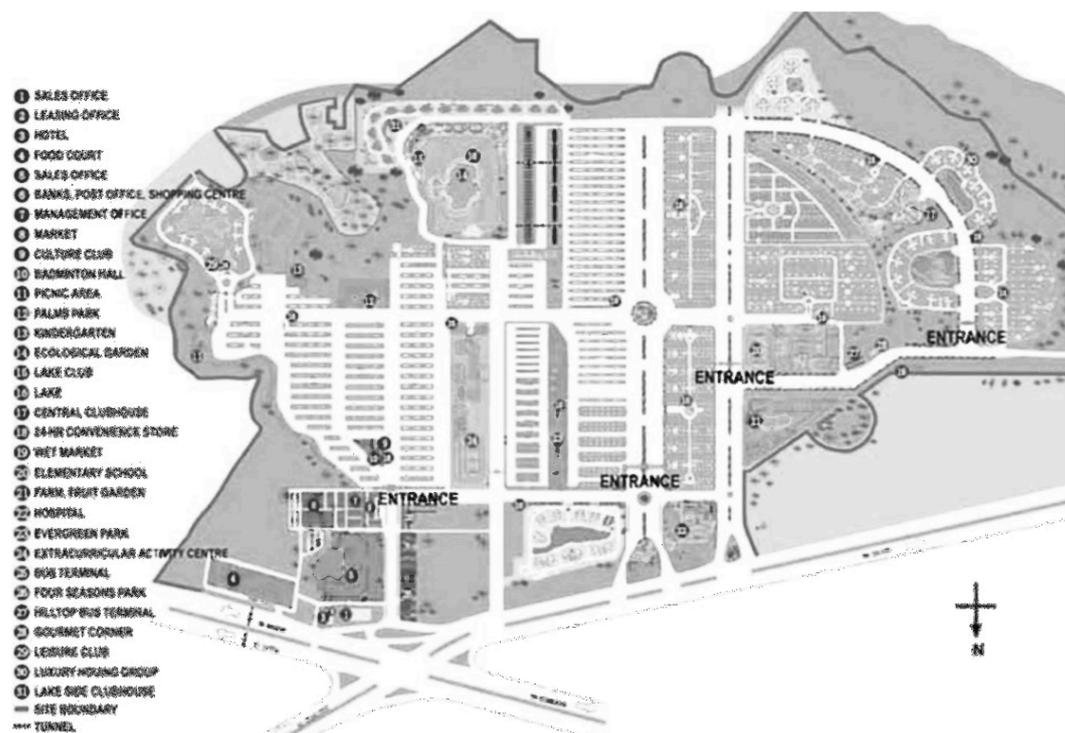


Figure 68 Plan of a large gated community in Guangzhou  
(Adapted from Xu and Yang 2009)

Moreover it's the possibility to build new types, as high rise, to change the internal rules of the compound. Space between buildings, due to the high floor's number, increased in order to respect the construction regulations. For this reason also the typology changed, and the rectangular base left the floor to more compact

plans, able to, first of all, use less ground land and secondly leave free facade space to the buildings nearby.

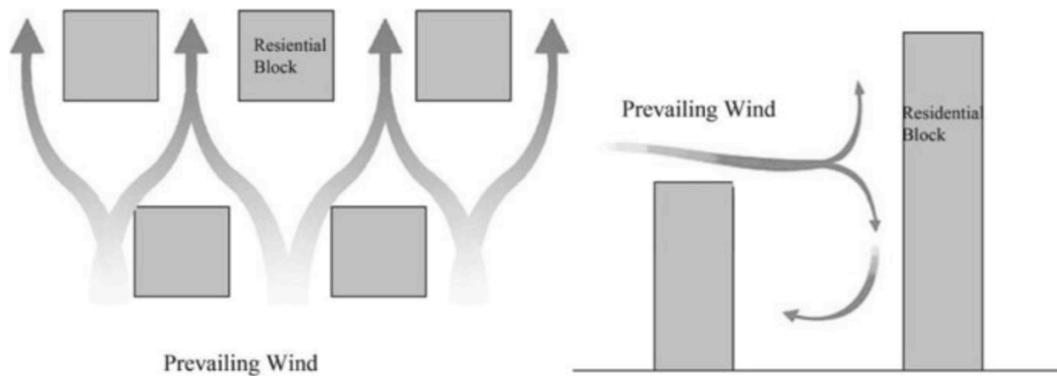


Figure 69 Optimal spatial configuration to improve natural ventilation  
(Adapted from Yuen and Yeh 2011 p 57)

The relation with the road can be observed in those cases in which superblocks are used to achieve a mix in building use, usually residential plus commercial. In this case we can observe the presence of massive buildings, working as basement, usually filled by offices and shop. Towers stand out against this base reaching 30 or more floors. This organization could mainly be observed in urban areas; on the other hand freestanding towers were a common morphology in new expansion residential areas and industrial parks.



Figure 70 Shanghai residential blocks arrangement in Pudong  
(photo by author)

## The high-rise towers: Vertical unit aggregation

The opening of market had multiple consequences into cities' dynamics. One above all considerable growth in land prices in combination with the house shortage. Designers had to on one hand to solve the inevitable contrast between standardization and diversification avoiding excess in prices, on the other to search for functional models of high-density design to maximize the use of land. Foreign theories<sup>95</sup> were useful to open the debate between architects and to build the foundations for a Chinese innovative way of standardization. Tsinghua University, around 1980s, experimented a new design in this exact direction. The parameter for a basic room had been the first step to set up new unit arrangements and to form apartments and buildings. Starting from the single 'cell', it was possible to design the house block. Due to the strict rules on floor-area type, possibilities were limited, and after an analysis on types, family size and spatial consideration a fourteen apartments layout came out. Apartment area ranged from 31,8 to 66.52, were arranged to form twelve terraced garden houses<sup>96</sup> (Rowe, Lü, and Zhang 2001, 214-5)

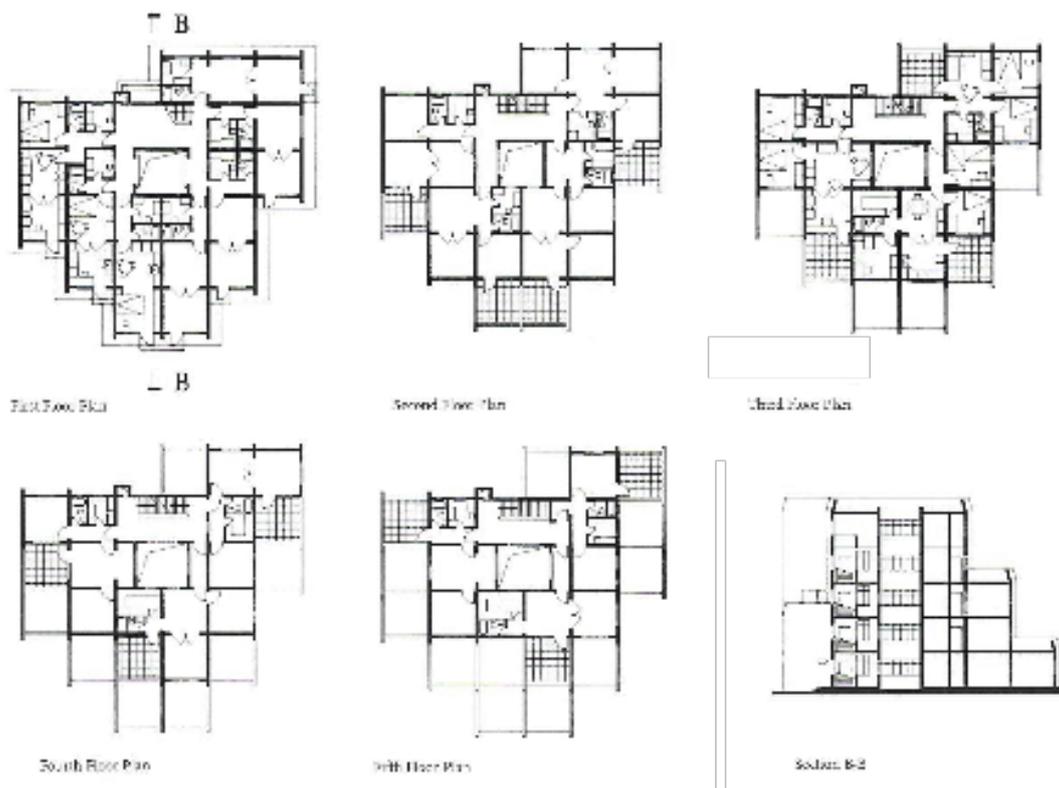


Figure 71 Terraced garden houses in Tianjin  
(Modified from Rowe et al. p 217)

In Wuxi, Southeast University experienced participatory planning using SAR housing system. Tianjin University designed a low-rise high-density trial construction in Nankai District (Tianjin).

<sup>95</sup> First of all SAR (Stichting Architecten Research or Foundation for Architects' Research), focused on "stimulate industrialization in housing", founded in Netherlands in 1965

<sup>96</sup> This type was able to provide high inhabitant density with low rise building

Unfortunately all these models seemed not to be 'fast' enough to be built and remained local experiments in Beijing, Tianjing, Yentai and Wuxi.

The house's shortages was so severe that China needed new 'types', to be used as repeatable models, with high density and low floor' footprint. In this direction 'the tower' seemed to perfectly match the requests.

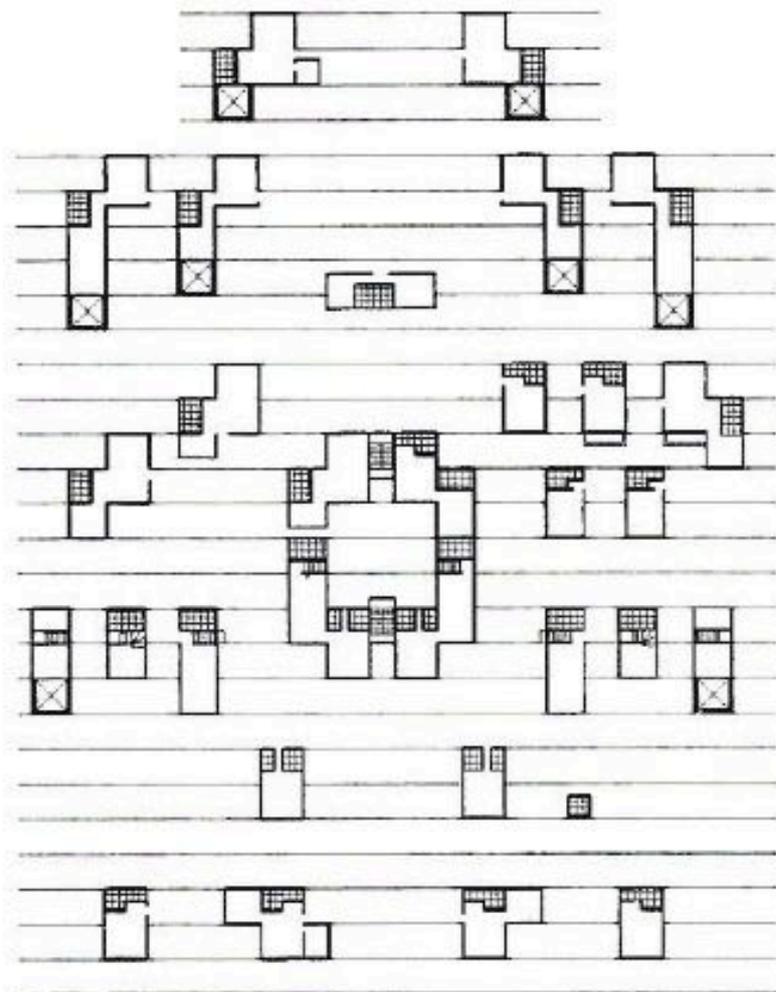
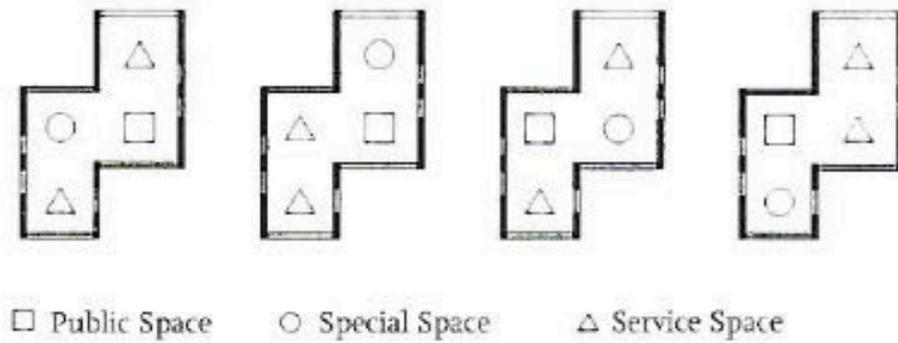


Figure 72 SAR housing system  
(Rowe et al. 2001 p 218)

High-rise buildings were certainly not new in Chinese cities: in Shanghai, for example, few hotels and high-end residential towers had already been built as multiple-storey, seven or more floors, around the '30. However since the '70 this typology had not had a wide diffusion until the necessity to protect agricultural land, suggested a reconsideration of it. Thus, also thanks to the technological improvements as the elevator, it became widespread.

As happened for parallel/perimetral block arrangements, also high-rise approach experienced unenthusiastic comments, but the saving in land and the high efficiency in developing drove it to growth rapidly. In 1987 more or less 45% of Beijing's building were high-rise housing building (ibid. ), but main cities strictly controlled the construction of this apartment type. Even if the parallel shape continued to be a considerable fraction of the urban fabric, tower-like development became representative of the contemporary Chinese way of life.

In terms of single units a main difference can be noticed: the increase in height reduced the possibility to have a direct relation with the 'outside' through balconies. Anyhow the possibility to have an "external" space was not completely denied, and the balcony became a *veranda*. This space can be considered as a filter between inside and outside, and it is usually totally glazed and cannot be opened<sup>97</sup> from the inside. In many apartments, it was used as an additional room<sup>98</sup>, as it was the yard in the traditional courtyard type.

In terms of unit aggregations a common approach was the *panopticon* (Bentham 1791) that permitted to use a central functional cell, where elevators and stairs were located, to save room in terms of common space. The configurations derived by this model had a number of variations as the cross, the butterfly H- or Y-shape.

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<sup>97</sup> In skyscraper wind become a quite important issue due to its increasing forces in relation with increasing floors

<sup>98</sup> Quite often it is used as laundry, but sometimes as a studio or part of the kitchen

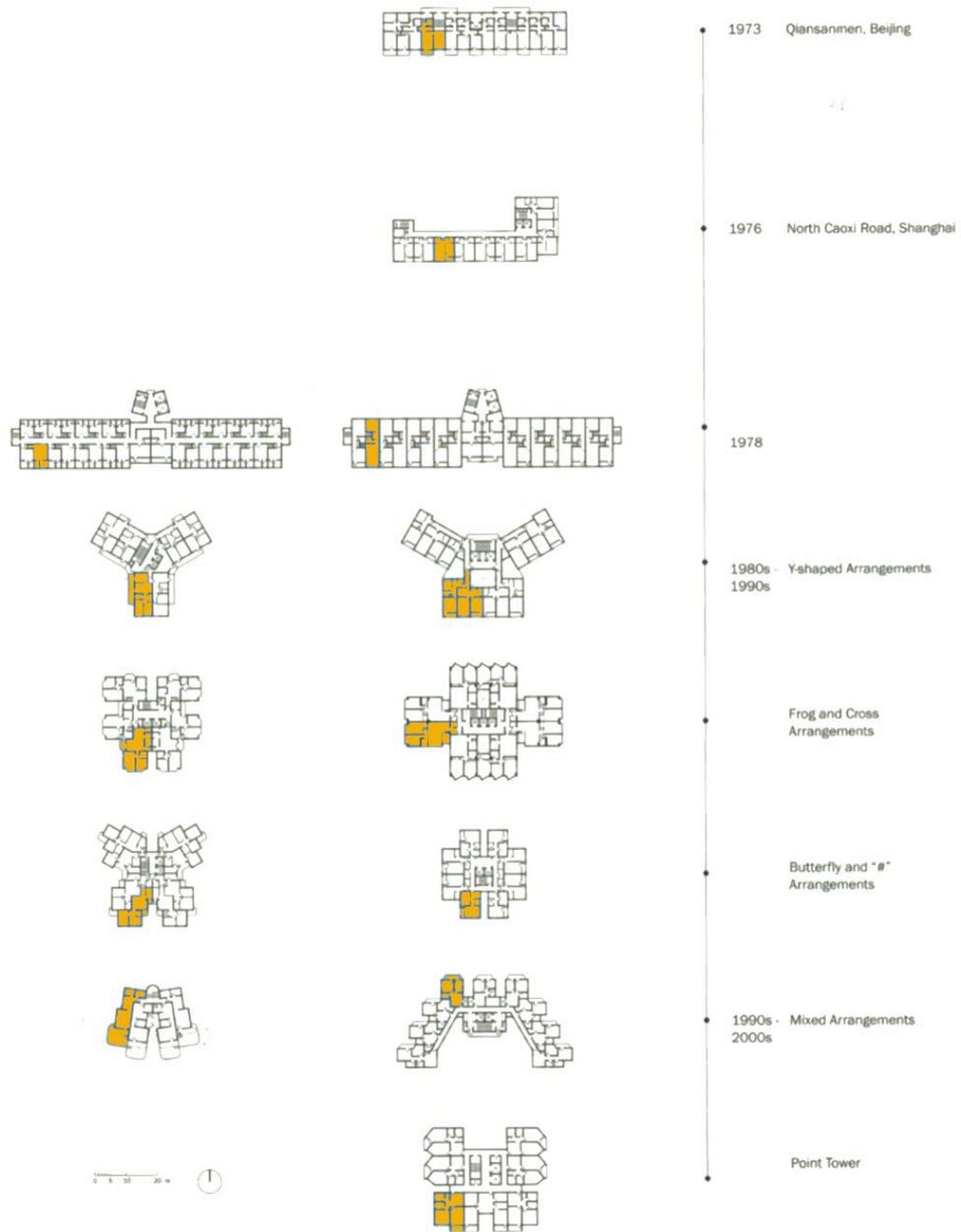


Figure 73 High Rise Towers and single apartment evolution  
(Adapted from Rowe et al. 2016 p 60)

## 2.6 The *linian*, a new concept of living (2000- )

Formally, 2000 has been the last ‘transition’ year for the housing assignment under the old national system. Between 1998 and 1999 the state council issued the end the provision of welfare housing in favour of commodification. This has been surely one of the most relevant policies applied in continuity with the changes started twenty years before. It pushed the home reform to proceed even more forcibly. Moreover, a few years later, in March 2007, a new law on property was enacted: for the first time, in the entire history of China, there was a legislation promulgated to protect and define the boundaries<sup>99</sup> of full ownership.

In November 2012 the President Xi Jinping, articulated China’s future around the definition of ‘Chinese Dream’, seeking to combine the aspiration of the Nation with the personal’s one of people in order to “*reclaim national pride and enhance incentive well-being*” (cited in Chi 2015 Xiii). The aim was to maximize both the national and individual interest, in economic terms, having “*indigenous innovation, urbanization and expansion of tertiary production as key areas of growth*” (ibid. XV). This well exemplifies the aim of this new Chinese economic phase, consequence of the Zhu Rongji’ s approach, that accompanied people into the ‘private Chinese Dream’. The prime minister<sup>100</sup> promoted the slow opening of Chinese capital account, a decision that led to political and economic consequences<sup>101</sup>, whose outcome considerably impacted on the Chinese system.

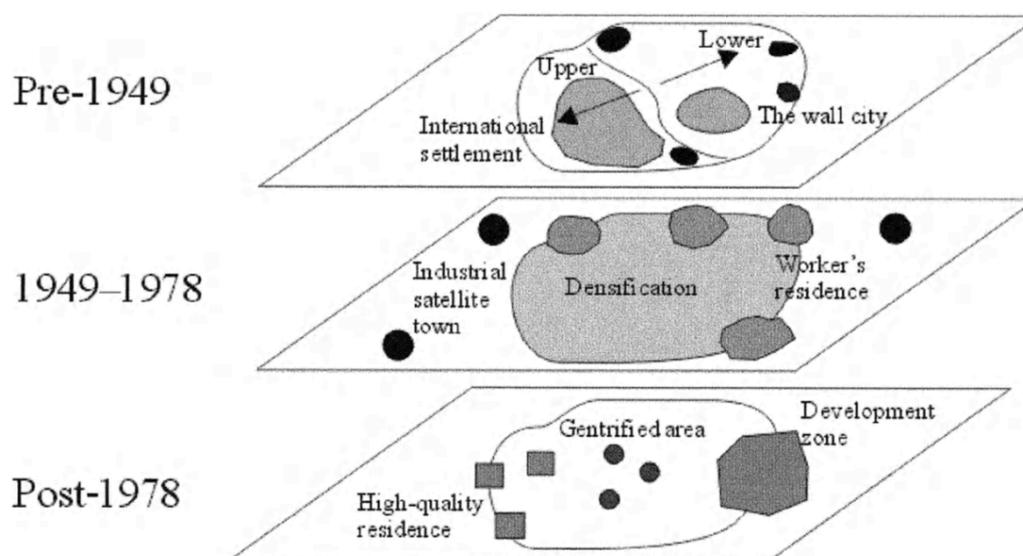


Figure 74 Urban spatial structure compared  
(Adapted from Logan 2002 p 164)

<sup>99</sup> For example it was define as “homeowners propriety” the common space, as green fields, roads inside communities

<sup>100</sup> Zhu Rongji was prime minister from 1998 to 2003, year of his retirement from the politics

<sup>101</sup> One above all is the so called “impossible trinity” or “trilemma” based on the Mundell-Flemming model which states that a country cannot simultaneously control a fixed foreign exchange rate, an open capital account and an independent monetary policy (Chi 2015)

Some policies had a particular influence on the Chinese social and economic organization.

An attempt was to implement the multiple house system to intercept the different population's segments and to promote the turnover in-between dwellers. The ideal target of the policies was to slowly move the market in the direction of obtaining a 70-80% of 'affordable housing' (*baozhang xingzhu fang*) to face the unsolved shortage for middle-low income people, a 10-15% of high end commodity housing (*shangpin fang*) and a 10-15% of subsidized rental housing. In reality these schemes never fit the reality and on the contrary the percent of affordable housing dropped to 4.6% in 2004 from 6.1% in 2003 (F. Wu, Xu, and Yeh 2007b, 53-4). The overall system was indeed not mature to oversee such a complex economic and political phase and the real estate market, in the hands of developers, shifted chasing the maximum profit. The gain from affordable house selling waves from 3% to 5% and the operation had to undergo a number of restrictions<sup>102</sup> that defined these units not suitable for investments in contrast with commodity housing. Despite the specific policies affordable dwells were still quite expensive.

Moreover, the implementation of the mortgage system was promoted to face the Chinese gap between residence prices and annual people income<sup>103</sup>. The possibility of access to a mortgage modified both socially and economically the notion of dwell. It was certainly one of the greatest system implementations, mainly be of used by young couples whose parents were able to help with the down payments thanks to the money saved during the transition period<sup>104</sup> (Shepard 2015).

These polices made clear a strong focus on 'the house' as the key investment area (F. Wu, Xu, and Yeh 2007a, 53). Contextually, the ambition was to stimulate all those related submarkets as building industry and furnishing (*ibid.* ), encouraging an overall economic prosperity. Indeed, due to the incomplete system of prices, the rapid growth experienced during the socialist market economy led to a bubble economy<sup>105</sup> that this phase tried to stabilized.

After the abolition of welfare system both average price and investment in housing increased continuously (Yi and Huang 2014, 293). Moreover the end of the transition period transmuted the possibility to own a house in a social imperative (Flock, Breitung, and Lixun 2013, 45). The property of an apartment is nowadays the base of important life steps as marriage<sup>106</sup> or retirement, it represents a source of safety and happiness and, moreover, a secure investment in a phase of transformation. This not only contributes to the price's rising but also

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<sup>102</sup> The regulation to buy such houses is strict because the family should not overcome a set annual amount, have permanent hukou, the owner must live in the house and it cannot sale the property before 5 years and before the complete loan's pay off (Shepard 2015, 173)

<sup>103</sup> Estimated in 10/15 time by Wu (2007a, 54)

<sup>104</sup> As said many people were able to buy houses directly from *danweis* benefit from subsidies prices

<sup>105</sup> In the mid of 1990s the Chinese economy faced a phase of steady development, solidified by the Southeast Asian Crisis

<sup>106</sup> Especially for mans who had the pressure to purchasing an house to be consider a 'catch'

to a number of 'satellite phenomena'. As Shepard (2015) noted during its interviews, the dwell became the main goal for the young generations and residence's prices fluctuations are a common topic, as the weather. The house also became a yoke for the young 'house slaves'<sup>107</sup> and a high pressure for those families<sup>108</sup> who had to help 'the new couple' to buy a house often moving in suburbs or other cities because prices in cities were too high<sup>109</sup> (work field).

Again Wu (2010, 394) claims that "*The aim of housing reform is to dismantle collective consumption organized by work-units and form housing submarkets that are suitable for particular consumer groups*", it seems particularly true if we consider the change in approach that developers adopted in recent years.

As strongly emerged from the morphological explanation of the Chinese city in previous periods, gating, in terms of 'enclosed neighborhood', is rooted in the Chinese culture and persist nowadays. Even if the result of the market transition has been an individualistic subculture (Huang 2013), the collectivism often can still be traced behind the walls.

Speaking about enclosed neighborhood, on the wave of the 'community building' campaign, lunched by the government in 2000 to stabilize the sense of community among residents, also the promotion of the new projects changed. By the residents' side, Community Committees and Community Service Centers were created to ensure the quality of services inside the community (Ministry of Civil Affairs 2000 cited in Huang 2013). This self-organization highlighted how much the 'nested city' was not only the result of a political phase, but moreover a strong and rooted social organization. This model was encouraged by the government that saw in it a convenience not only/anymore in terms of control, but moreover in terms of overall city management<sup>110</sup>. Planners, on the other hand, perfectly understood this scenario and were led to develop their new residential projects not anymore exclusively in type's terms but moreover creating unique identities in which future residents can empathize and recognize themselves with. The promotion of such communities deals with social cohesion and belonging but also with peculiar internal amenities referring to specific lifestyles and socioeconomic similarities. On the other hand, as Wu (F. Wu 2010) argued, packing this new way of life actually re-shaped Chinese urbanism, moreover in a social context in which the consumers did not have clear preferences in terms of living space, due to the previous welfare system.

As the State Statistic Bureau reported in 2001 (cited in F. Wu 2010), 20 years after the beginning of the house reform, the number of home's owners, registered as urban inhabitants, was 71,9%. And in 2010 the pro capita floor ratio was 31.6, a quite big improvement compared to the 6.7m<sup>2</sup> in 1978.

---

<sup>107</sup> People that have one or more (bank+family/friends) loans and they actually live to pay it back

<sup>108</sup> Usually from the male side

<sup>109</sup> It often happen that a family who live in a city have not enough money to help the son. So they sell the house and they buy two houses in an other, less expensive, location

<sup>110</sup> Communities paid a monthly fee to agencies devoted to the support of the community reducing the contribution that the state must applied to the city to maintaining streets gardens act

As said, until now China is experiencing a high rate in savings (X. Wang and Wen 2012; Cristadoro and Marconi 2012; Chamon, Liu, and Prasad 2013), but a growing concern about a possible devaluation of it (Modigliani and Cao 2004) shifted people's interest in investing, instead of accumulating money. Housing, precisely commodity housing, took shape as a growing market to look at in this view, giving the households the wider housing option they experienced until now. Speculation in real estate market started again<sup>111</sup> to be fruitful and, in some cases, it came up to be a good niche to recycle money (F. Wu, Xu, and Yeh 2007a, 54). The intervention of higher income groups, sometimes having control of grey or corrupted incomes or able to borrow consistent sums, led to a rapid inflation in property prices (ibid. ).

A particularly spectacular change in life-style can be traced in the growing interest for multiple properties. Considering all the factors described above<sup>112</sup>, indeed, it is possible to argue that a consistent portion of the estate's offer attempted to reach people who wanted to invest in a second, or more, property. This is somehow confirmed by data: a 6.6% of two or more tenants was calculated in 2002 by Chou, (cited in Huang and Yi 2011) a value that grew in 2007 when Huang et Yi (2011) approximately defined it at 15%. These data exacerbated the polarization of rich and poor in terms of housing affordability and the diversification in social structure that the evolution of the economic reform led to. The second home<sup>113</sup> market often disclosed also a specific submarket that was the luxury one. In this direction promotion both to stimulate desire of new lifestyle and investment are key actions for real estate developers. Professor Li Yining (2002), taking part to the country wide debate about second home, claimed that only an improvement in living standards for rich people would give the poor ones the possibility to have a place to live in. But the fact that prices skyrocketed any year and also home ownership increased (ibid. ) might again enlarge the inequalities gap instead of reducing it. On the government side some effort had been made trying to control this phenomenon, especially after 2007 when a significant step has been made in resolving the affordable housing problem. Owning a second home is not a total novelty in China. As Huang and Yi (2011) mentioned multiple ownership defined nobles and rich since ever. On the other hand, in this period, multiple house ownership it is not only prerogative of wealthy classes but also of the rising middle class (Goodman 2013). Aspiration and desire of a new lifestyle lead into new city' spatializations.

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<sup>111</sup> Since hearty port

<sup>112</sup> Not solved affordability problem but high rate of ownership

<sup>113</sup> I here use the term 'second home' in a property meaning not in terms of use as often happen, The focus is not on leisure time as in the Dartington Amenity Research Trust,( 1977) definition (cited in Huang and Yi 2011)

## The city of oasis

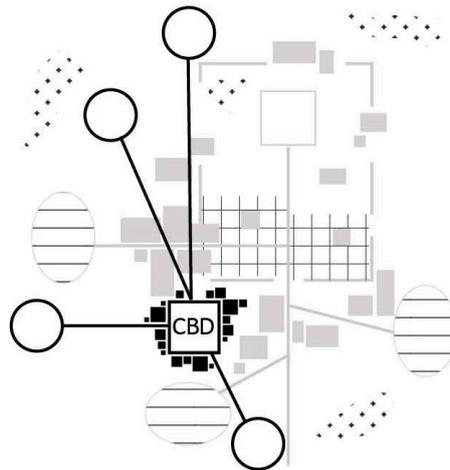


Figure 75 Morphological Scheme 2000-  
(by the author)

From one hand the challenges to deal with, in this phase, went ahead in continuity with the transition period. The growing allocation demand of people floating, permanently or temporary, into the city, the scarce availability of land, and the growing price of it in central areas still affected the house market. For this reason high-rise typologies, arranged in different plot morphologies, continue to strongly characterized the shape of Chinese cities. On the other hand, the new meaning of ‘the house’, from shelter to product of self-representation, led to the intensification<sup>114</sup> of specific urban strategies both in central and suburban areas.

Central areas, where the majority of ‘urban villages’<sup>115</sup> were located, underwent massive redevelopment projects. In first instance it was related with the will of health in the oldest part of the city, in lack of basic services and often characterized by self-made shelters.

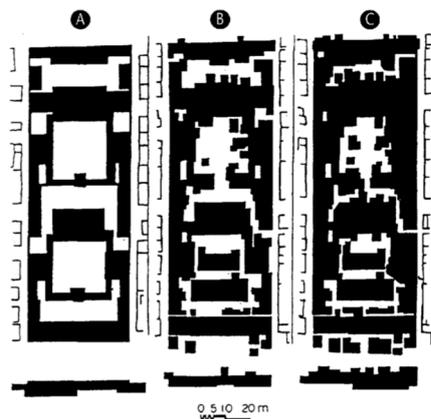


Figure 76 Densification of a Courtyard house in Beijing from early 1950 (A) late 1970 (B) 1987 (C)  
(Adapted from Wu 1999)

<sup>114</sup> Not new because partially applied during the previous economical phase

<sup>115</sup> Extensive parts of the city mainly characterized by residential traditional low-rise urban fabric. Often hyper-densified by self-constructed house’ extensions and very dense in terms of number of inhabitants per square meter

Except for Shanghai, that few years before accelerated the urban development, after having recognized a consistent number of dilapidated houses (F. Wu 2004b), the relocation process rapidly reached the majority of Chinese cities<sup>116</sup>. *Chaiqian*, translation as “tearing down”, is nowadays a well know ideogram that is the prelude of extensive morphological changes.

Thus, it should be mentioned their rise in value due to the increasing influence of center-periphery model. The redevelopment of these parts of the city continued to be interesting, in market terms, not only for the municipalities but moreover for developers who might be able to earn considerable profits. Due to this rapid market modification household in those areas were asked to sell their proprieties in change of money or bigger and newer apartments in different part of the city, the so-called relocation.



Figure 77 Tearing down characters

(retrieve from <https://blogs.wsj.com/chinarealtime/2010/01/25/a-softer-line-demolition-character-goes-out-of-style/>)

Certainly, the relocation process not only involved social issues but also consistent morphological changes. Resettlement housing is indeed considered a proper housing category and a defined market' segment (S.-M. Li 2010) characterized by high-rise suburban settlements. The fact that land in urban china is entirely owned by the state helps in pursuing renovation projects based on an overall city concept, in which, sometimes, these old residential enclaves cease their residential role in favour of new touristic and commercial spots. In facing inner city renovation in this phase, indeed, two main morphological approaches have been applied to 'historical' settlements. A preservation plan has been proposed in 2008, by the government (Miao Zhang 2014) and since that moment

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<sup>116</sup> In 2001 the state council regulate the process

in many cities the local bureau developed new urban plans taking in consideration also this approach. In cities as Beijing a notable part of the old *hutongs*, mainly the one located around the Forbidden City, has been integrated in preservation projects, with the aim of refurbishing part of the extensive residential area limiting inhabitants relocation<sup>117</sup>. This approach maintains the old morpho typological tissue acting in conservative ways. In many other cases, on the other hand, old traditional tissue has been substituting for new projects, with commercial and touristic aim<sup>118</sup>. In this second approach morphologies used might have a ‘antique flavor’, as in the case of Nanjing FuziMiao Temple, where the commercial spot has been created in Ming Style but with contemporary materials.



Figure 78 Relocation type possibilities choice in Beijing Hutong  
(by author 2017)

Simultaneously to inner settlement renovation cities expand to suburbs, not only to accommodate high-rise settlement but also ‘foreign housing compounds’ (see F. Wu 2006) community types, characterized by gated low-rise morphologies. As said, the high prices of land parcels dictated the development in height, moreover in inner cities, for this reason to pursue low density settlement it was crucial to acquire cheap land. Developers, indeed, faced the saturation of the markets they use to operate in. In response, they invested in emergent niche markets such as villas compound.

<sup>117</sup> On the other hand also in Beijing extensive parts of the old tissue has been destroyed in favour of new projects such as the Olympic Park

<sup>118</sup> Commerce ensure higher returns so it might also explain low rise projects

Chinese city already experienced these new morphologies in the last part of the transition period but, due to the market crisis of 1994 (2006 195) and national restrictions, their sprawl has been cooled down. Only since 1999 developers has been allowed to invest again in this specific high-end submarket. Location is quite important for the morphology of these settlements because, differently from the European use of the villa, the units are placed in relation to the surroundings and, somehow, also each other. Most famous compounds are located along Expressways or roads that connect the city with the international airport to facilitate transfers. Usually close to international schools, that is an important asset, or international administrative centers such as embassy area in Beijing or CBD, the average distance is usually thirty minutes according to Giroir (2006). Indeed the main client's target seems to be the Chinese diaspora community, foreign multinational firm's executives and overseas investors, all categories in the possibility to use the car to reach other parts of the city.

The morphological impact on the city seems to be so strong that developers coin the CVD (Central Villa District) acronym to pinpoint the new 'club system' (Giroir 2006) that arise around this new typology agglomeration. In comparison with high-end low-density compounds developed in the '90 it is possible to notice some typological evolution of the concept of villa, and its surrounding services, probably to please the new middle class.

## The *Bieshu*: The spatialization of a class

The term ‘villa’ came into English common language from Italian around seventeenth-century (King 2004, 101). In its original context, this isolated architecture was indissolubly tied with the landscape and represent the relation between man and environment (Romano and Trisciuglio 2008). Although the type can also be used as the nucleus of a farm, it was the main vocation at leisure activities that differentiate the productive role to the residential one. Moreover even though the approach from the typological point of view seems similar, the farmhouse had a functional architecture where the villa, thought its innovative architecture, promotes the owner taste symbolizing his wealthy. Archer (in Silverstone 2007) identify the appearance of villas as a great change in people awareness; “*a consciousness that began to identify primarily in the autonomous self rather than in a social hierarchy or collective*” (ibid. p41). It symbolized the nurture of self leisure activities instead of social activities such as politics (ibid.) and the rise of the bourgeois and middle class.

DESIGN XXII  
VILLA IN THE ITALIAN STYLE



Fig. 119



Figure 79 Italian Style villa  
(Reproduced from King 2004)

According to Ackerman (1990, 9) *“the villa has remained substantially the same because it fills a need that never alters, a need which, because it is not material but psychological and ideological, is not subject to the influences of evolving societies and technologies. The villa accommodates a fantasy which is impervious to reality”*. Its biggest social significance modification happened in the eighteenth century when the villa undergoes its democratization, becoming accessible to ascent middle and lower classes experiencing rapid economic growth (ibid. ). So the villa not only refers to a specific architecture typology, built as free-standing to partially to pursue its dominance on the surroundings and relish thereof but also to a strong ideology of class separation.

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Figure 80 Villa Advertisement in Beijing  
(Reproduced from King 2004 p 118)

In the Chinese context, the so-called ‘villas’ stated to shape the suburban and inner part of the cities in recent years. Even if in cities like Beijing and Shanghai it appeared around 1990, it cannot be considered as connotative<sup>119</sup> of the Chinese

<sup>119</sup> More in ideological terms than quantitative ones because if compared to the overall amount of Chinese houses villas are still a small percentage

City before 2000<sup>120</sup>. In first-tier cities the number of hyper-rich rose early in comparison with the rest of the country, the luxury submarket rose subsequently. This permitted the growth of real estate strategies not only in terms of quality but also in terms of differentiation and types. The developments had a number of common up-scale features such as servants quarters, multiple garages, high security and inconvenient location to public transport (Gaubatz 1999, 1503). Usually villas shared as well a ‘western’ style, of course accompany with western narratives, but a modified traditional Chinese style was also used in a minority of cases. In this frame, specific architecture models such as French Style of Fontainebleau project in Shanghai, or the California Style in Beijing’s Orange Country compound, are used as “transformative” (F. Wu 2010, 387) of the Chinese society aim at proposing a specific lifestyle (Giroir 2006). Often the direct reference to a specific foreign style serves as a guarantee of authenticity and uniqueness, both characteristics of luxury products<sup>121</sup>.



Figure 81 Gate of Orange Country in Beijing  
(Reproduced from Wu 2010)

<sup>120</sup> Also due to a crisis of market around 1994 during which no new villas were built until 1999 when the villa market recovered (F. Wu 2006, 195)

<sup>121</sup> For an overall dissertation about branding techniques of “package suburbia” and new ways of life refers to Wu, Fulong. 2010. “Gated and Packaged Suburbia: Packaging and Branding Chinese Suburban Residential Development.” *Cities* 27 (5). Elsevier Ltd: 385–96. doi:10.1016/j.cities.2010.06.003 but also Wu, Fulong. 2004. “Transplanting Cityscapes: the Use of Imagined Globalization in Housing Commodification in Beijing.” *Area* 36 (3): 227–34 and Giroir, Guillaume. 2006. “Yosemite Villas—Mirror of Emerging Capitalism?.” *China Perspectives*, no. 64 (March): 1–15.

The villa was widely used in the outskirts of large cities, were used as tiles and repetitively located to build up new suburban area, bearing some similarity with the US gated community model as point out by Giroir (in Glasze, Webster, and Frantz 2006, 140). Anyhow in some cases as Purple Jade Villas in Beijing, the suburban location of the compound was speedily erased by the fast growth of the city. Indeed *Ziyu shanzhuang bieshu* are nowadays in the inner ring of Beijing.

In terms of reciprocal relation, the villas are detached and surrounded by a yard, despite that there is view contact between each other because they are usually located along the internal roads. Usually each real estate project has more than one type of villa, sometimes with different architectural styles, but moreover differentiate by floor space and outdoor land.

People who live in the compound, that usually is a gated community (Giroir 2011), can moreover take advantage of a number of services such as a Club House where inhabitants can meet and carry out a number of activities<sup>122</sup>, the abundance proposed by such structure is often a ‘litmus test’ showing the luxury of the compound. Moreover landscape feature such as internal rivers or lakes seems to constitute another pre-requisite to attract clients in a such ‘hyper-luxury’ competitive environment.



Figure 82 Club House in a commodity housing estate  
(Reproduced from Wu et al. 2007 p 297)

However, despite the hyper-luxury characteristics of the villa explained before, in contemporary China the term “*bieshu*” is used to name all the types of detached houses and townhouses (F. Wu, Xu, and Yeh 2007b). Considering that also hyper luxury villas do not sharply follow the original villa’s type, it is

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<sup>122</sup> Some common activities are gym, swimming pool, restaurants, theatre, spa, playroom

difficult to refer to a precise typological definition. For this reason, many times, differences between hyper-luxury and luxury are done mainly for price slots. By this, the 'economic villa' seems "*to fill the gap between luxury properties and ordinary commodity housing*" (F. Wu 2006, 195). In the case of this additional declination in the concept of the villa, the morphological characteristic of the plot does not change much. On the other hand additional services provided by the Club House or close location to specific amenities seems not to be considered part of the community plan. This might imply a change in inhabitants target shifting from the international community to high-end Chinese residents.

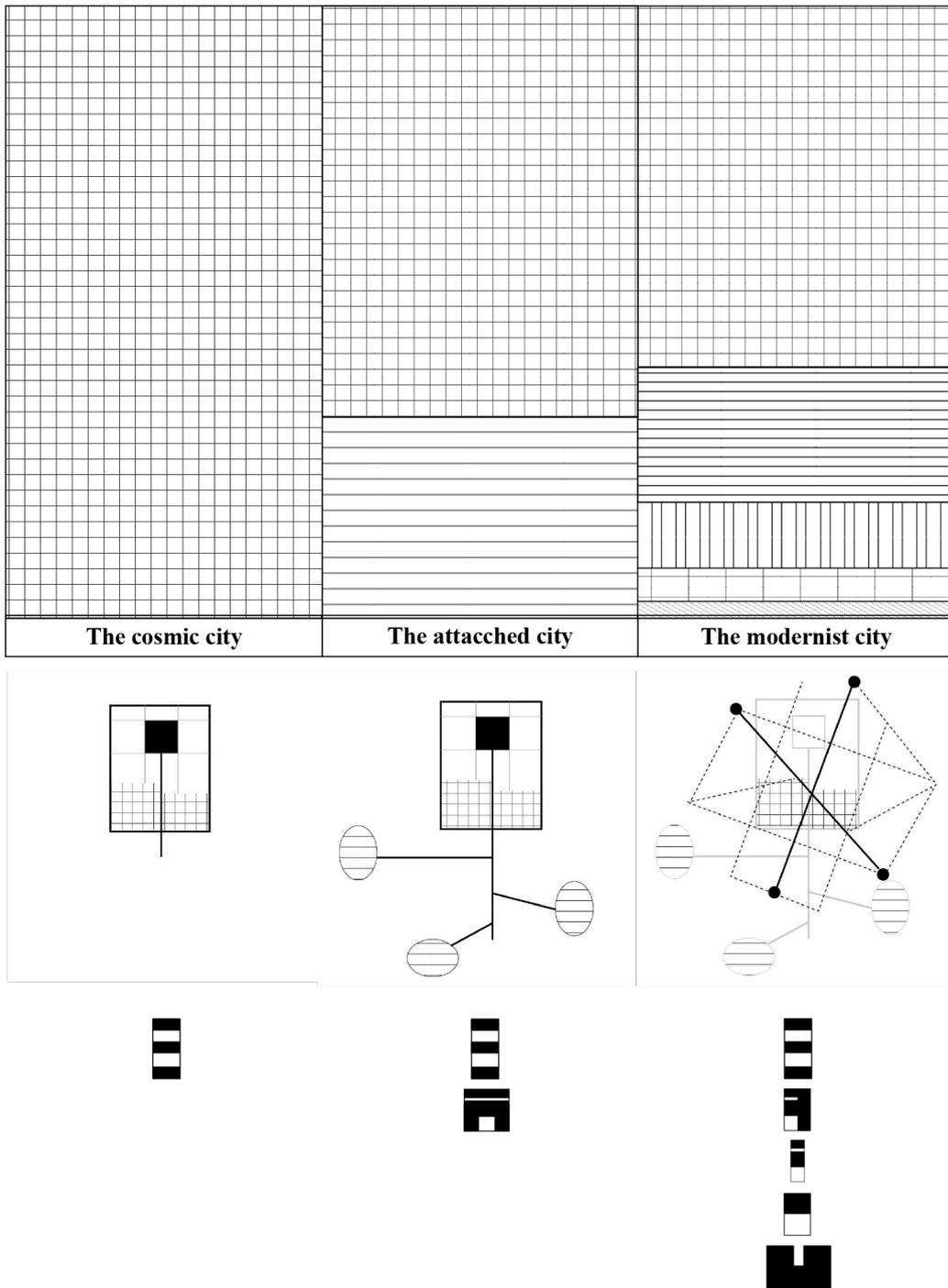


Figure 83 Qualitative scheme of morphologies and typologies per periods  
(by author)

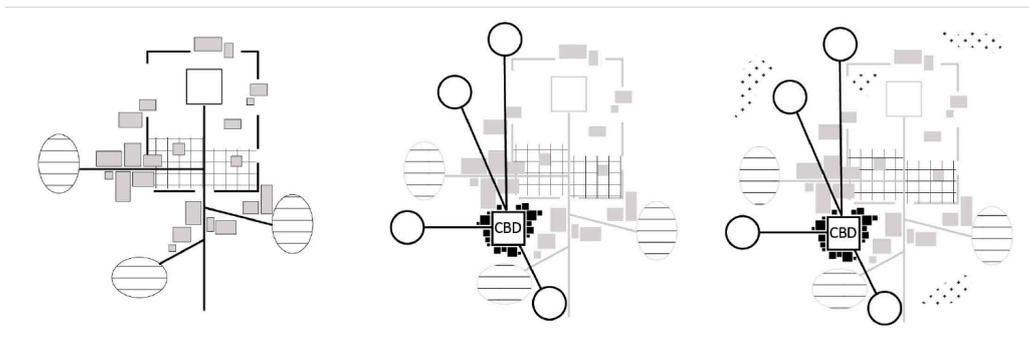
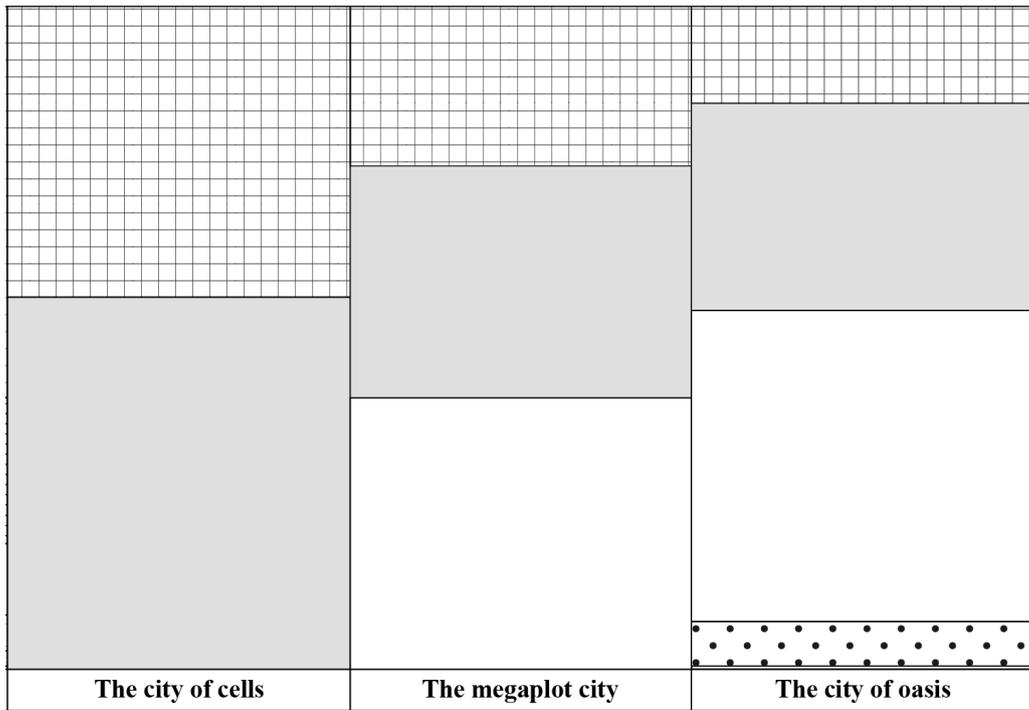


Figure 84 Qualitative scheme of morphologies and typologies per periods  
(by author)

# Chapter 3

## The sold voids

High spatial concentrations of unallocated spaces might influence the city's growth both in terms of dynamics and built form. To better understand this particular interaction, it has been necessary to carry out *in loco* observations taking advantage of specific case studies.

In China the presence of vacant dwells is a nationwide phenomenon, not only in commodity submarket but also in high-end one. In Guangdong Province, due to the proximity to Hong Kong, Siu (in J. Wang 2005) outlined multiple luxury residential communities built from the '90s on, characterized by different vacancy levels. In particular the nine-story blocks development in Panyu<sup>123</sup>, disclosed few occupied units (79) while villa complexes in Pearl River Delta (83) seem to wait for owner retirement. Shanghai's Thames Town shared a similar situation. While the gated communities, often characterized by detached houses, results half-full the downtown condominiums seem almost completely vacant (Piazzoni 2018). In the periphery of Nanjing it is possible to observe two extended settlements mainly composed by single 'in style' houses<sup>124</sup>. *In loco* observations and online data<sup>125</sup> showed a high concentration of unused dwells.

The recent and fast development of Chinese cities arose, as mentioned, some specificities to take in account while considering specific projects as case studies. If on one hand the study aims to delve into contemporary settlements, projects built after 2015 might not highlight meaningful points due to the still ongoing construction process. On the other hand, plans realized before 1999 would refer to a different economic season.

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<sup>123</sup> Built around 1992-1993 by a shareholding between Guangdong Province and a Hong Kong based company

<sup>124</sup> Characterized by Baroque and Renaissance decorative details and landscape planning

<sup>125</sup> <https://zhenzhuquan9haomf.fang.com/> last visit January 2020 the site shows a map of unsold units, more or less one-third of total units result still unsold.

Moreover, disaggregated data<sup>126</sup> might be difficult to source. It might depend on Governmental policies or, as for the vacancy, due to the incompleteness of the census system. As reported by Woodworth and Wallace (2017, 6) the *daishou*<sup>127</sup> property category has only recently be introduced in statistical reports<sup>128</sup>. Additionally, these data have no capacity to reliably unused and uninhabited proprieties. In loco observation together with morpho-typological analysis might be functional to query the space.

Furthermore, an interesting reasoning on vacancy spatial concentration features might be arose through the analysis of both inner and suburban city's tissues.

Having in mind the previous considerations the work focuses on a single mid-level city<sup>129</sup>, Nanjing. The city has a long history of urban transformation<sup>130</sup>: as many Chinese cities that had an administrative role along with the dynasties, it was moved many times leaving multiple hints that, at present, are not only morphologically but also socially, economically and politically influent on the city palimpsest (Corboz 1985). Luckily, its classic urbanization pattern (Babar and Kesteloot 2009, 535) as well as the marks of the planned economy period, primarily restricted to the first suburban areas, are still readable despite the rapid growth of the city.

Moreover Nanjing, also thanks to its role of ancient capital, is listed in CHC<sup>131</sup> (Cultural and Historic Cities - *Lishi wenhua mingcheng*) and tries to deal with a precise need of the contemporary Chinese society: the social and urban Chinese identity in a global market-oriented society (Fei Chen and Thwaites 2013, 79).

Also, development trajectories and institutional opportunities are different from the more 'globalized' Beijing, Shanghai and Guangzhou, and it is considered conservative and compact (Jianglong Chen, Gao, and Chen 2016). In comparison with other coastal cities, as Shenzhen and Guangzhou, "[Nanjing] growth is somewhat slower" (Luo and Wei 2009) and this might help in analysing contemporary processes and layers. This does not mean that it's a city shelved in time, on the contrary, it is considered one of the largest cities, accounting a population of almost eight million inhabitants (Q. Wu, Zhang, and Waley 2016, 3511) so it experienced a vast spectrum of urban issues.

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<sup>126</sup> Often data on vacancy are expressed through a comprehensive number

<sup>127</sup> It means awaiting sale

<sup>128</sup> It partially depends by the fact that China experienced a transition from a planned economy to a market-oriented one. Thus, phenomena such as the residential vacancy did not characterize the pre-reform period that, on the contrary, often faced shortage issues.

<sup>129</sup> The Chinese urban system is divided in administrative areas. Cities are divided in municipalities, directly led by central national government; it is possible to count four cities in this category defined as 1 tier. Sub provincial cities, so called second tier, are 15 but other provincial cities are enumerated in third tier administrative level (17 in total). The majority of the cities are defined as prefecture-level cities (4th tier) and country level cities (5th tier).

<sup>130</sup> See Jiang (2016) for an extensive treatise about Nanjing planning and morphological history

<sup>131</sup> The aim of the list is to acknowledge the historical value of peculiar cities and find appropriate strategies to both preserve heritage and let the city develop.

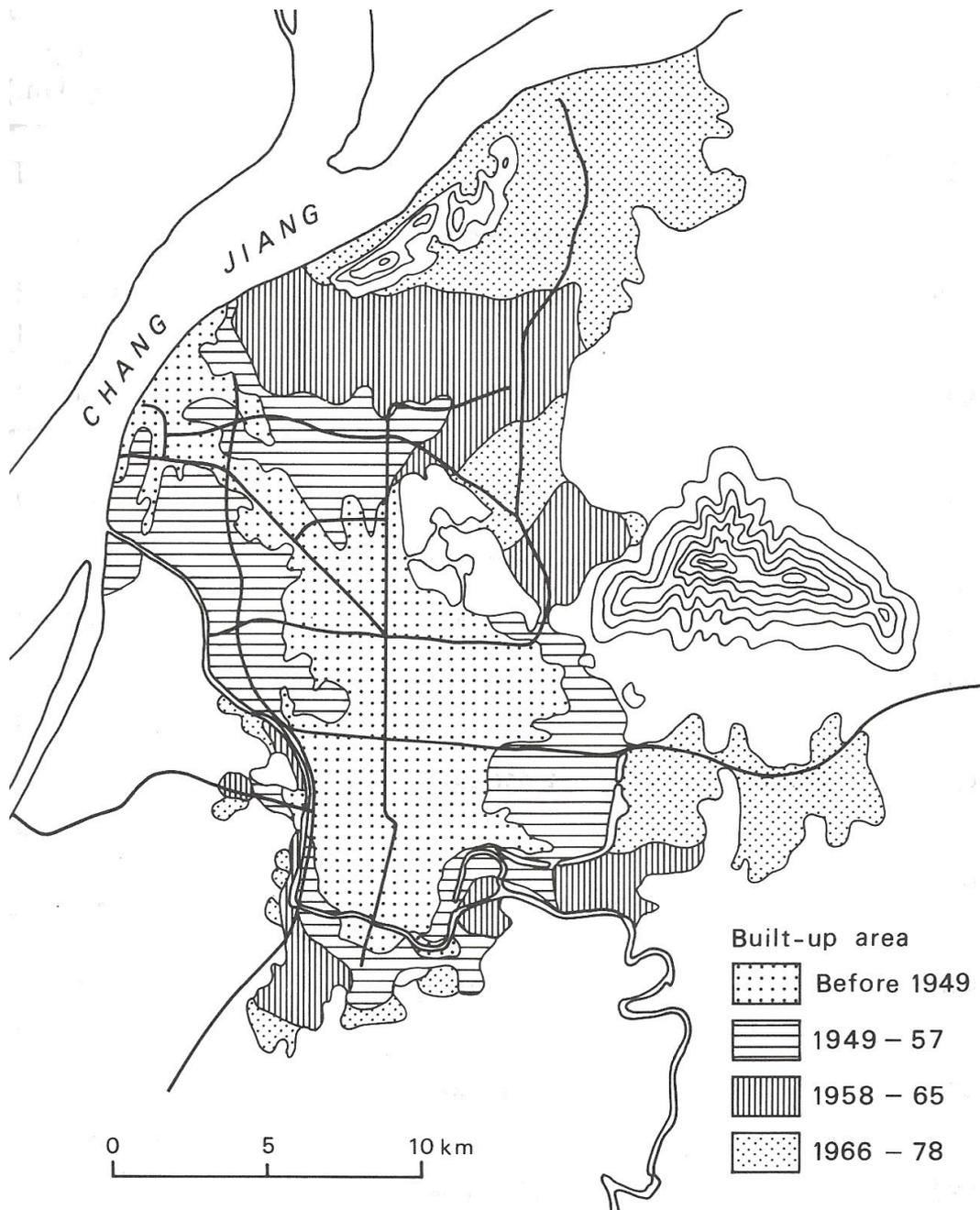
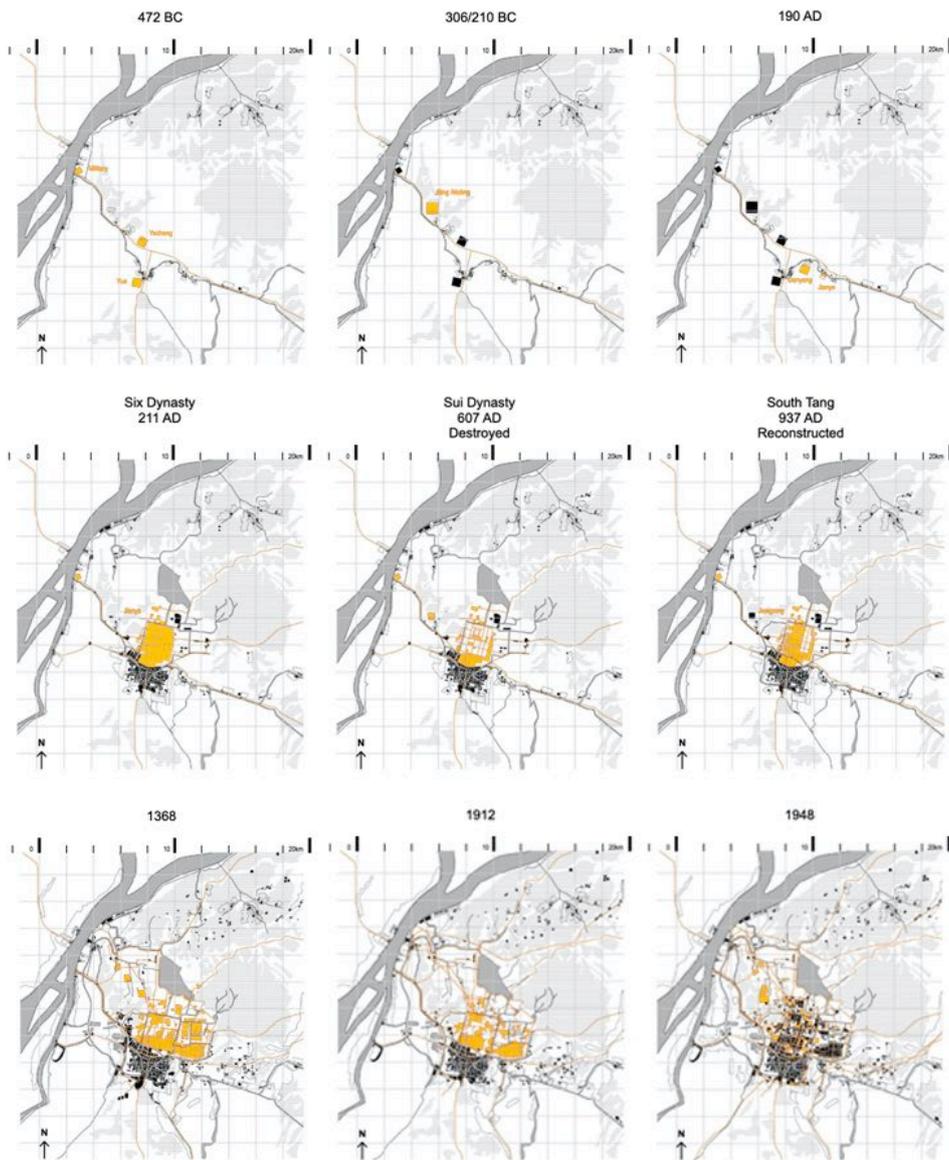


Figure 85 Nanjing built-up area expansion until 1985  
(Adapted from Sit 1985)



**Industrialization and urban expansion  
from 1950s to 1990s**

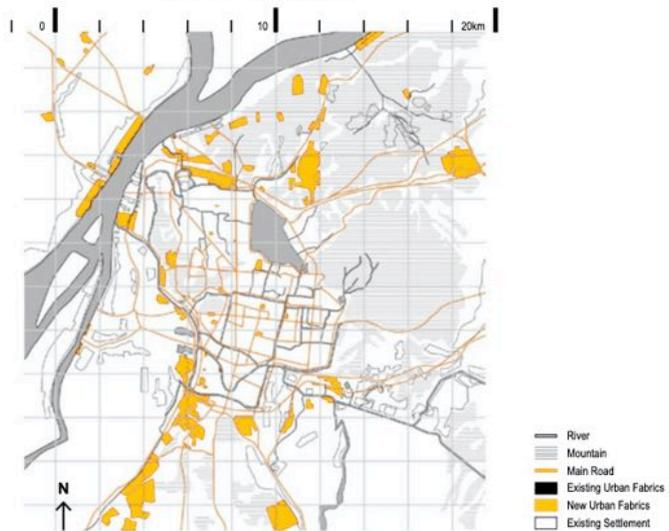


Figure 86 Evolution of Nanjing  
(Modified from Zhang 2015)

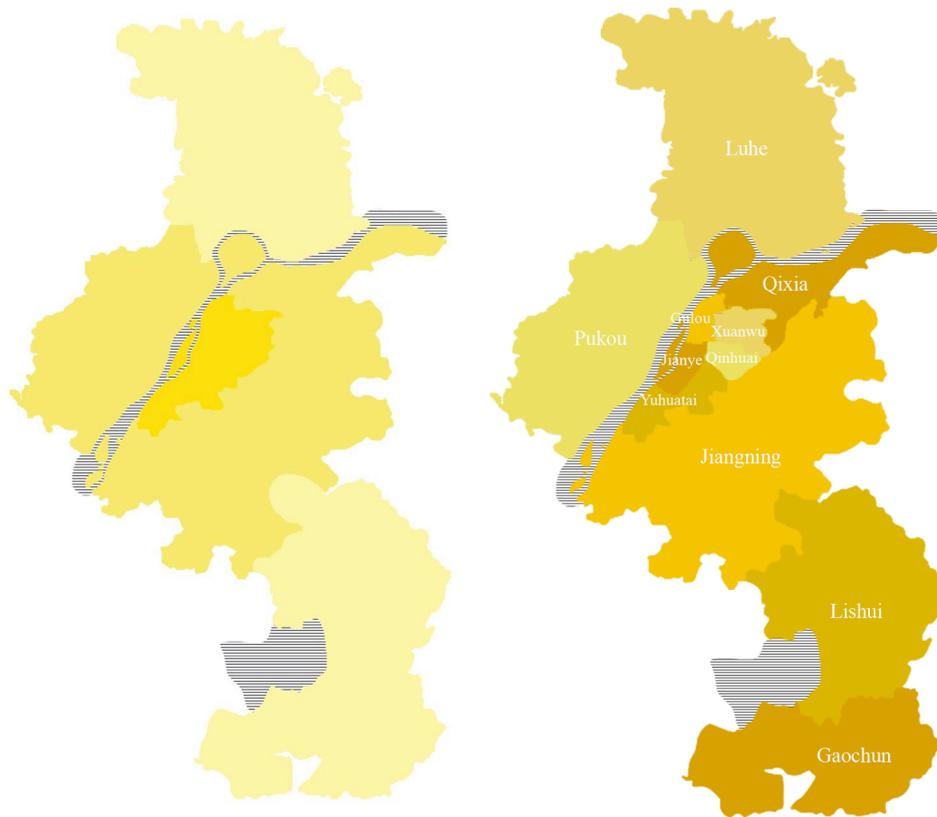


Figure 87 Nanjing Urban, Suburban, Rural Areas (left) Districts Division (right)  
(by author)

As Chen (2016, 8) reported, Nanjing’s ambition, confirmed by the new strategies, is to become an international city able to compete at the regional level to attract investments both international and domestic.

This is somehow supported by the findings presented by Chen et al. (2018) that indicate Nanjing, and other next-tier cities, as increasingly attractive to elites in terms of house affordability, quality of infrastructure, ease in obtaining the *hukou* in comparison with superstar cities (defined by Gyourko, Mayer, and Sinai 2006). On the other hand, as Glaeser points out (2016, 4), “*The risk of overbuilding is most real in lower-tier cities that have benefitted from general exuberance about China*” and not in first-tier cities where, often, demand exceed the supply. Overbuilding might lead to demand-supply imbalance and consequent high vacancy rate.

Instead of using economic data of high vacancy to identify possible case studies, the work developed from those places in which practices and appearance of the spaces might highlight an under-occupation and under-use of them. This approach might help in better identifying specific forces acting on the local processes, to discern the economic phenomena and their spatial parts.

For this reason, this part of the work narrows down the field of observation to two different case studies, in order to observe vacant spaces in the same urban context but taking advantage from the city’s peculiarities, one above all the sharp division in the proper city and its suburbs.

As previously disclosed vacancy and its relationship with new luxury settlements, in specific micro contexts is the focus of this part of the work.

The investigation of vacant dwells in the city followed a direct approach: the vacancy was quite visible since the first on-field survey in both case studies. Anyhow the interest of the work focuses on unallocated residential spaces that, compared to shops and restaurant might be more difficult to map due to the introvert attitude of their architecture and the complexity to observe internal activities. For this reason, in some cases, the effort has been to observe the presence of unusual ‘data’, provided by on field observation, as presence of air conditioning machines<sup>132</sup>, in order to hypothesise the presence of inhabitants. Unfortunately even if this type of exploration is potentially very effective, its extensive use requires the access to detailed roof images. On the other hand the in loco observation was followed by the research of economic data from real estate agencies and public information.



Figure 88 AC Units identified in LaoMen Dong using the City Wall as elevated observing point  
(By author)

The analysis tries to highlight the contemporary evolution of Nanjing, as the emblematic case of a traditional Chinese city in constant growth, concerning the different approaches used in the proper city and the suburban area. The City Wall, in this case, is not only a symbolic and physical element that recalls the great past of the city but also a dividing line able to mark different approaches: a more punctual, at first sight, fragmented, operation in the introvert inner-city counterposed to more extensive plans in the suburbs.

The city wall had such an active key role, as a generative element, that permits the narration of two different ‘stories’, exemplified by the case studies, but before ascribable to specific processes. The effort of the work is to draw the attention on these stories in parallel, even if without the claim of a complete telling.

In particular, the two case studies refer to the high-end/luxury real estate houses, exemplified by the presence of villas, and contemporary to unallocated units.

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<sup>132</sup> A ‘must-have’ in new built Chinese construction



Figure 89 Scheme of the location of luxury low-density settlements  
(by author)

## Inside the inner city

The inner city characterized almost entirely by traditional urban fabric, has been strongly renovated since 1984. In this year the government proposed the redevelopment of the old inner-city working in two directions: on one hand restoring important monuments and on the other reviewing the structure of the city. The first attitude might be exemplified by redevelopments such as the so-called 'Confucius Temple' or *Fuzimiao*<sup>133</sup> and the restoration of the banks of *Qinhuai* River that flows in front of it. Works took more or less six years and ended around the beginning of the '90. The second approach, actuated a few years later, consisted in heavy demolition of historical units stated along Zhonghua Road in order to convert it into an avenue. The economic and policy changes China was getting through during that period, drove to the destruction and redevelopment of quite significant portions of the cities. This inclination reached Nanjing as well, causing the disappearance of an enormous portion of the traditional urban fabric.

In 1992 in Nanjing emerged a real estate industry with market-oriented policies on the land use that allowed the government to lease the land to private developers in the attempt of moving industries outside the walled area, trying to have a higher money return due to the different land prices. After the Urban Master Planning of 1995 commercial and residential buildings of high-rise type emerged in the city, even if several high-rise buildings were already built between 1977 and 1982<sup>134</sup>. Towers and high-rise buildings characterize the contemporary city of Nanjing, representing the increase of power that private actors accumulated after 1978. The 73% has a residential use, in the inner city organized in mega plots with shop basements and in the periphery more often in gated communities organized in towers.

In 2002 when the government drafted the 'Historical-Cultural City Preservation Planning' 90% of the old city was already been destroyed. From here on, the government outlined a number of interventions in the Southern part of the city in order to demolish illegal and unqualified buildings to rebuild. The overall plan that the Bureau was willing to apply was massive and taking into consideration many small spots mainly located in the 'old South town'. Among other areas, this part of the city is, sure enough, the oldest, so it is possible to trace it back to the Sixth Dynasty (211 AD) during which the city started to be expanded towards North. The South part of the city mainly had a residential and commercial function, characterized by artisans and craftsmen in the past; nowadays it hosts a low income and migrant population, often organized in enclosed low-quality enclaves. This might be considered the real consolidated area due to its continuity in terms of urban form and characteristics until the '90.

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<sup>133</sup> Built in Jin Dynasty (265-420 AD), destroyed in Song Dynasty but it was built again to become the site of the Imperial University and irreversibly damaged during the second Sino-Japanese Conflict (1937-1945)

<sup>134</sup> The first high rise building has been the Dingshan Hotel which had eight floors and was 30 mt tall

In 2010 the ‘Nanjing Historic city Conservation plan’ was formally proposed and made effective. Since this act, several operations took place in order to protect the remaining heritage and preserve the local and national identity as well.

As said the Plan approach, devised by Beijing-based design institute (Fei Chen 2016)<sup>135</sup>, had been oriented to the definition of multiple spots, each redeveloped at different times. This is the case of the Nanbuting block (Pan and Cao 2015), an incremental four stages redevelopment conducted by NUCIH ‘Nanjing Urban Construction Investment Holding (Group) Co., Ltd’, a state-owned company. This project dates back to 2002 so it can be considered as one of the first interventions under the Preservation Plan<sup>136</sup>. Here, among the typical community renewal, Meicheng and Tian (ibid.) illustrate conflicts generated between the presence of multiple stakeholders, relocation practices and the Land Development Right<sup>137</sup>. A series of buildings located around the already mentioned Confucius Temple has been recently renovated. Such intervention leads to an expansion of the touristic spot that nowadays is devoted to entertainment and shopping. Other two key areas experienced an ongoing activation project: HeHuaTang<sup>138</sup>, located west to the South city gate, and Santiaoying. All the mentioned areas shared the transformation from densely residential areas to new touristic and commercial spots (Shen et al. 2015). Even if this is not the unique trend, as the cases presented by the Wu and He (2005), it is with no doubt the most influential not only in terms of social inequalities (He et al. 2008; Y. Hu et al. 2015) but also about the city’s modification.

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<sup>135</sup> The plan classified the existing building in categories based on the quality status (preservation, repair, restoration, adaptive reuse)

<sup>136</sup> For the extensive treatise refer to Meicheng Want and Tian Ruan 2015, *Conflicts in the Urban Renewal of the Historic Preservation Area\_Based on the Investigation of Nanbuting Community in Nanjing*. Pp 99-120 in Pan, Qisheng, and Jason Cao, eds. 2015. *Recent Developments in Chinese Urban Planning*. New York: Springer.

<sup>137</sup> LDR are an important part of contemporary Chinese city’s processes and derive from the fact that in China the government owns the urban land. Developers who want or are asked to build a new part of the city need to do it through a land-leasing process, usually of 70 years. This answered to the rigidity in land resource allocation after socialist period (J. Zhu 2004)

<sup>138</sup> Extensive dissertation can be found in *Typological Permanencies and Urban Permutations*. Design Studio of Re-generation in Hehuatang Area, Nanjing / Trisciuglio, Marco; Jiang, Lei; Bao, Li; Zhan, Yang. - (2017).

## *LaoMen Dong*



Figure 90 Inner City case study position  
(by author)



Figure 91 LaoMen Dong location in the Urban Context  
(Modified by author from Baidu Maps)

Santiaoying is located East of Zhonghua Gate along the City Wall. It was the first phase, completed in 2013, of the broader project of LaoMen Dong. It is part of Qinhuai District whose boundaries are defined by QinHuai River and the city wall. The project, as part of the more extensive Municipal Plan, was commissioned by the Nanjing Bureau but constructed by a private developer<sup>139</sup>.

Before the renovation the settlement was an inner village characterized by a dense urban fabric, chiefly residential and composed by traditional courtyard houses, that dated back to Ming Dynasty.

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<sup>139</sup> Until now no records give a deeper understanding of the economic jurisdiction of the project. It might be a private-public partnership

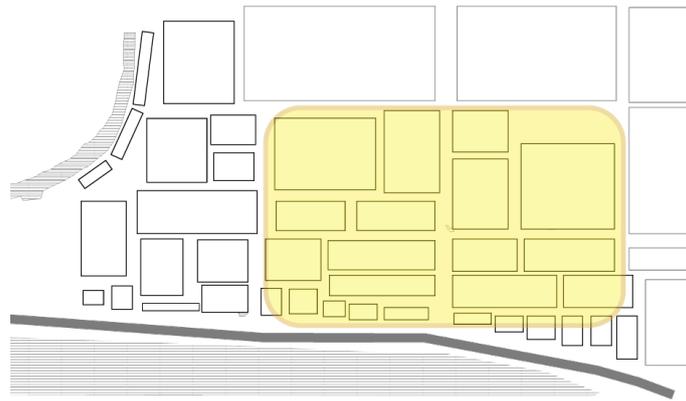


Figure 92 Scheme of LaoMen Dong First Phase  
(by author)

LaoMen Dong has been developed in two phases, the first one took advantage of the privileged location, at the base of one of the most famous scenic spots of the city, the Wall, in order to create a commercial and touristic center in continuity with the coeval and precedent operations<sup>140</sup>. Even if the aim of the project focused on leisure time, it is essential to notice that it refers to an ancient architecture typology trying to create the atmosphere of the past again. This is pursued using the so-called ‘New Fake Antique Buildings’ (Miao Zhang 2014), a reconstruction style belonging to the past.

The buildings all around Laomen Dong boundaries are residential, confirming the previous vocation of the area, but they belong to a different period. Along Jianzi Alley where the main entrance is located, it is possible to notice medium-rise buildings<sup>141</sup>, whose architecture reminds the ’80s/’90s, arranged in superblocks. On the Eastern project area, on the other hand, it is possible to visit the few rests of the traditional settlement composed by courtyard houses still inhabited.



Figure 93 Buildings height along Jianzi Alley  
(by author)

At the intersection of Jianzi Alley and Gutong Alley, a central sidewalk steers towards the entrance of the park. A wide and straight street visually connects the entrance, highlighted by an ‘in style’ stone and wood archway, with the city wall

<sup>140</sup> Listed above

<sup>141</sup> 5 to 8 floors

which, however, is not directly accessible from the site. The main alley, whose dimensions typify it as a street, conceptually divides the project into two areas: an East compact area that describes the characters of a traditional settlement and the west part that highlights a hybrid attitude (Devoti and Pressacco 2019) in order to hold more dynamic functions.

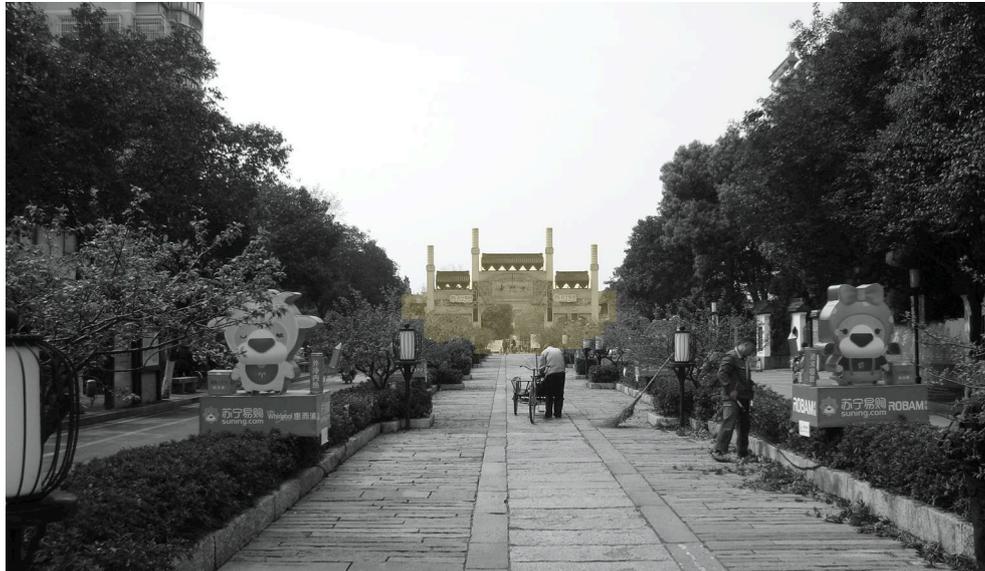


Figure 94 Main Entrance of LaoMen Dong  
(by author)

Anyhow the whole area is organized using a revised model of the traditional courtyard house that was amended from time to time to respond to different functional needs. Despite the external appearance, which shows a Ming Style *façade*, the traditional composition of the house is not always respected. Some buildings are characterized by the typical sequence of small rooms and yards, usually the ones facing the small alleys in the East part of the settlement<sup>142</sup>, but in many other cases a unique open-space has been used to face the contemporary commercial needs. This creates a contrast between the structure of the plan and its exteriors.



Figure 95 Commercial Building  
(by author)

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<sup>142</sup> Here are located small artisan and souvenir shops that can better relate with a traditional typology

Moreover, in the West area, we can observe a two floors architecture, but, differently from the original settlement, we cannot recognize the repetition of a specific type. Indeed, we can observe a juxtaposition of different models, from the temple to the Republican building but also provincial styles often related to small clearings. Again in the West part, in contrast with the introvert organization of the courtyard house, in many cases the units are quite open on the street, both at the first and second floor, resembling the inside *façade* (the one facing the yard) of the traditional dwelling. This peculiarity is more evident for the buildings facing the main streets, but many singularities are used to compose the space. Moreover, the reproduction of the traditional fine grain is sometimes interrupted by more prominent elements as the Jinling Art Gallery, the movie theatre and other more contemporary buildings without a precise function. The comparison of original plans with the contemporary settlement, highlights the general respect of the morphological structure. On the other hand, the streets dimensions and the external spaces in general, appear out of scale.

The entire area is strictly pedestrian, but it is possible to park inside thanks to a large underground parking lot with multiple entries.



Figure 96 Jinliang Art Galley architecture  
(by author)



Figure 97 One of the Parking entrance  
(by author)



Figure 98 Scheme of LaoMen Dong Second Phase  
(by author)

The second phase of the project is divided from the first by a one-way low-traffic road where one the entrances to the underground parking lot is located.

There are some differences in comparison with the first phase, not only in terms of types and morphologies but also in functions. Even if shops, restaurants, workshops are still present, they are mainly placed along the main alleys and roads, in continuity with the previous phase. The primary type is, also in this case, the traditional dwell, mainly North-South oriented except along the river where it rotates in order to follow the waterway and create with it a direct relation thanks to a promenade and some small terraces. Also in this case, the type is inflected to hold different functions as restaurants and bars along the river, workshops and shop at the boundaries of the inside blocks, houses in the inner part of it.

The main entrance, also in this case highlighted by a stone archway, is located at the intersection between the right beginning of Zhonghua Road, near the South gate, and Yingfu Street, that follows Qinhuai River to join Madao Street. The area is mainly pedestrian but, as previously said, there is an underground parking lot that serves both commercial activities and houses.



Figure 99 West Entrance from Zhonghua Road  
(by author)

The residential function seems to be the most significant innovation of this real estate process. The houses that can be typified as urban villas are 88 in total with four different surface area: 600, 800, 900, 1100 square meters<sup>143</sup>. They are organized on four floors, two of which underground. The underground parking has some garages incorporated in the houses at the -2 floor. This permits the owners a direct entrance to their house, almost with no relation with the outside. One of the features of the houses are the internal yards, three in the smaller type. This detail seems to have both a technical and typological meaning; on the one hand, it traces the traditional courtyard house while on the other, it permits to have natural light at the -1 and ground floor. The villa is equipped with stairs and elevators that are, with the pillar, the only fixed elements of the plan. The rough construction idea permits a substantial personalization of the interiors. Anyhow the underground floor is usually devoted to ‘loud’ activities such as KTV, gym, cinema room. The access to the house is provided through a small yard. It is anyhow challenging to standardize the description of the houses due to an impossibility to directly observe their principal front.

Sometimes, indeed, it seems the houses have a glazed front, more related with an internal façade than a principal front: this might raise doubts about the building function even if its position is clearly in the house compound and no emergency exit<sup>144</sup> are located on the perimeter.



Figure 100 Glazed front on street  
(by author)

<sup>143</sup> Data obtained during the last survey, November 2017, by a resident

<sup>144</sup> Usually compulsory for shops and restaurants and trackable in the surrounding buildings

This type of residence seems to refer to an East-West mixed model, closer to the *Lilong* type like *Shikumen*, due to a reduced role of the yard if compared with the local courtyard type. Zhang (2012, 89) refers to it as ‘vernacular model style’ referring to Kunming cases. In contrast with the original settlement, in which the street is mainly public, and privacy is protected through a ‘maze morphology’, in the residential part access alleys are gated creating a new type of morphology in terms of the relationship between buildings, accedes and streets. On the other hand, it is interesting to notice that, even if gated, the lines are not physically patrolled. There are surveillance cameras and an in loco office of property managers, but no controllers, at least until now<sup>145</sup>. This somehow overcomes precedent real estate models such as Think UK<sup>146</sup> (*ibid.* ) where the coexistence of private and public spaces provoked reactions between residents in 2005. Inside the residential part we cannot recognize the usual functional *mixité*<sup>147</sup> able to inscribe the traditional inner villages organization. It seems we are facing a declination of the Western concept of zoning<sup>148</sup>.

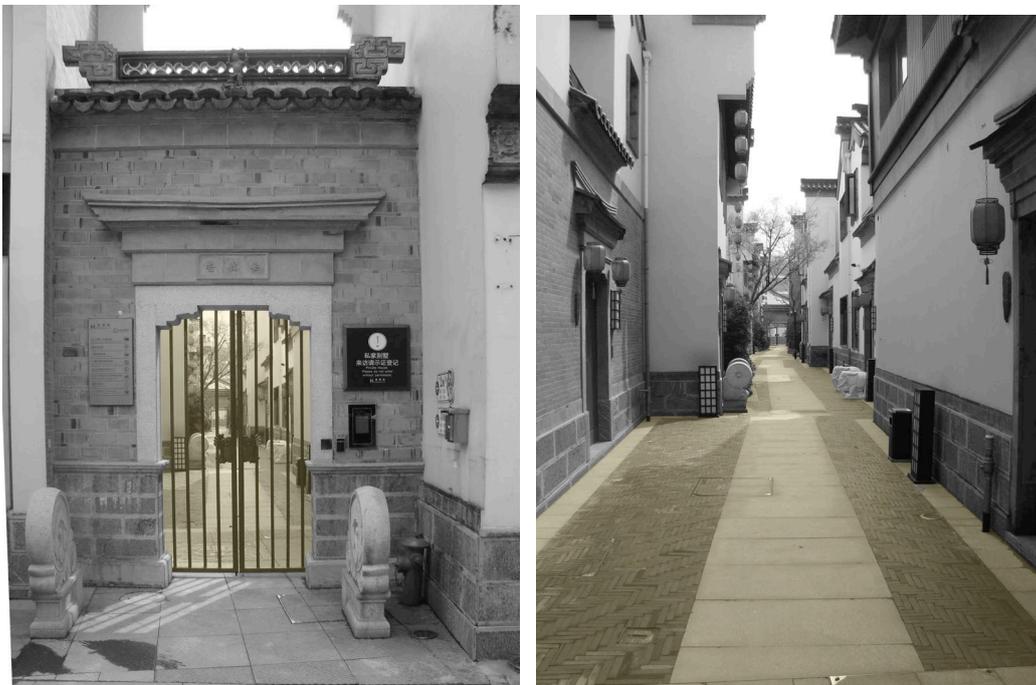


Figure 101 Gates at the ends of a private alley  
(by author)

<sup>145</sup> As said this kind of services are supported by the residents so it might be a sign of wide vacancy

<sup>146</sup> Even if it was not a villa complex but a luxury condominium complex

<sup>147</sup> Usually in the compounds, both high rise and low rise, there are amenities such as small grocery stores

<sup>148</sup> Barattucci, Chiara. 2013. *Zoning/Mixité. Alle Radici Dell'urbanistica Italiana E Francese 1870-1945*. Roma: Officina.



Figure 102 Scheme of types used in the settlement  
(by author)

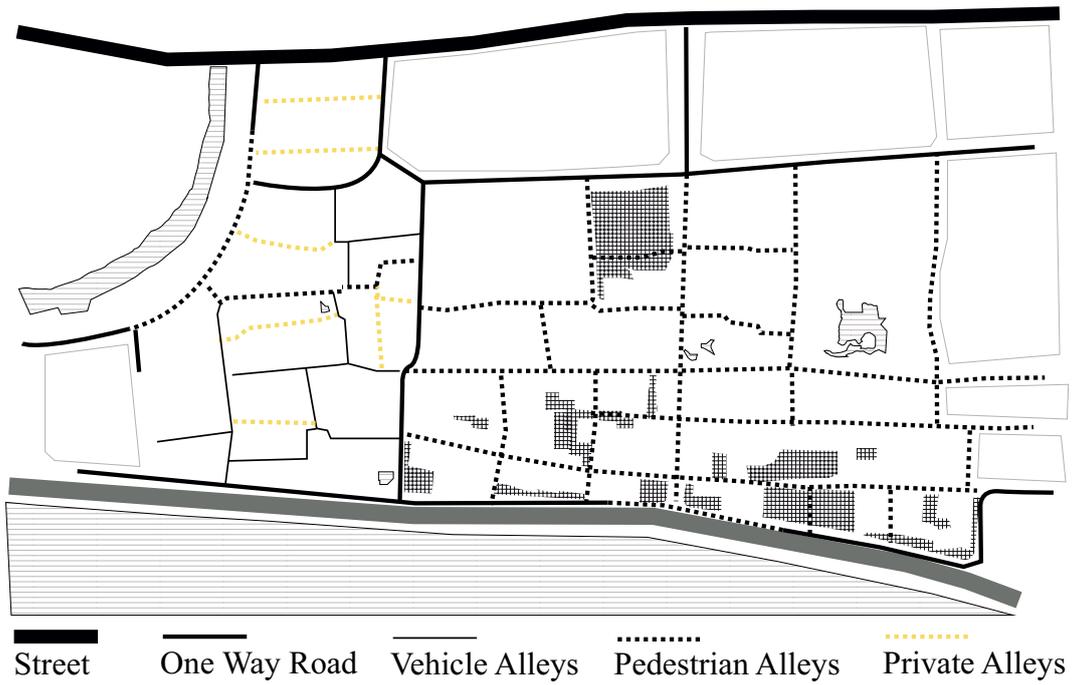


Figure 103 Scheme of networks inside and around the settlement  
(by author)

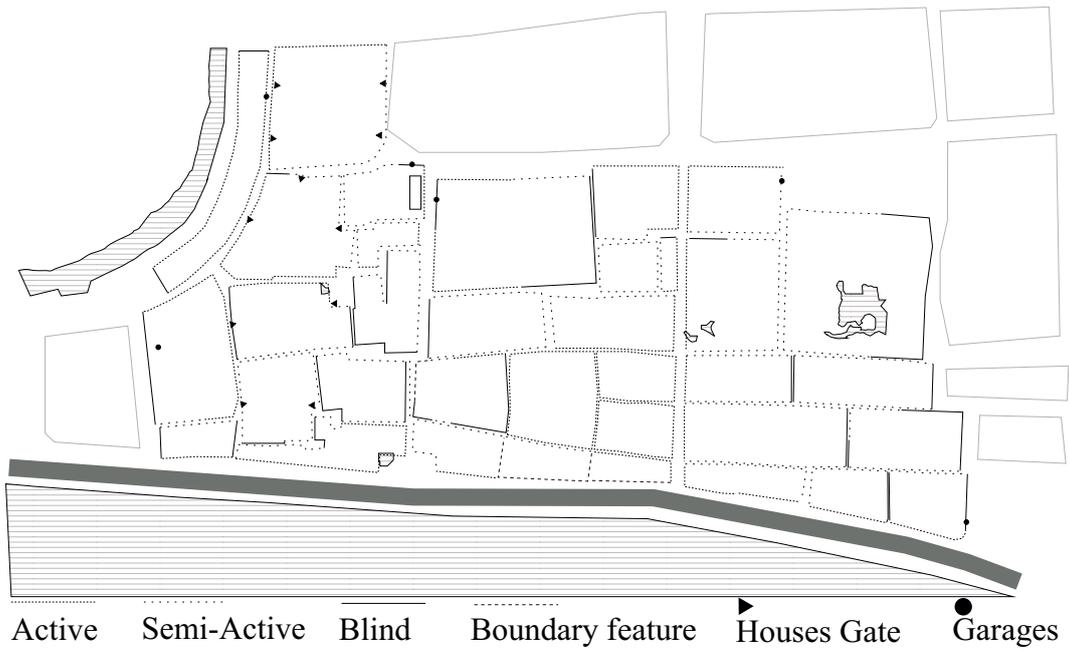


Figure 104 Scheme of boundaries activity. Active refers to high density of doors and windows. Semi-active low density of doors and windows. Blind have no doors or windows. Boundary feature have free-standing wall (by author)

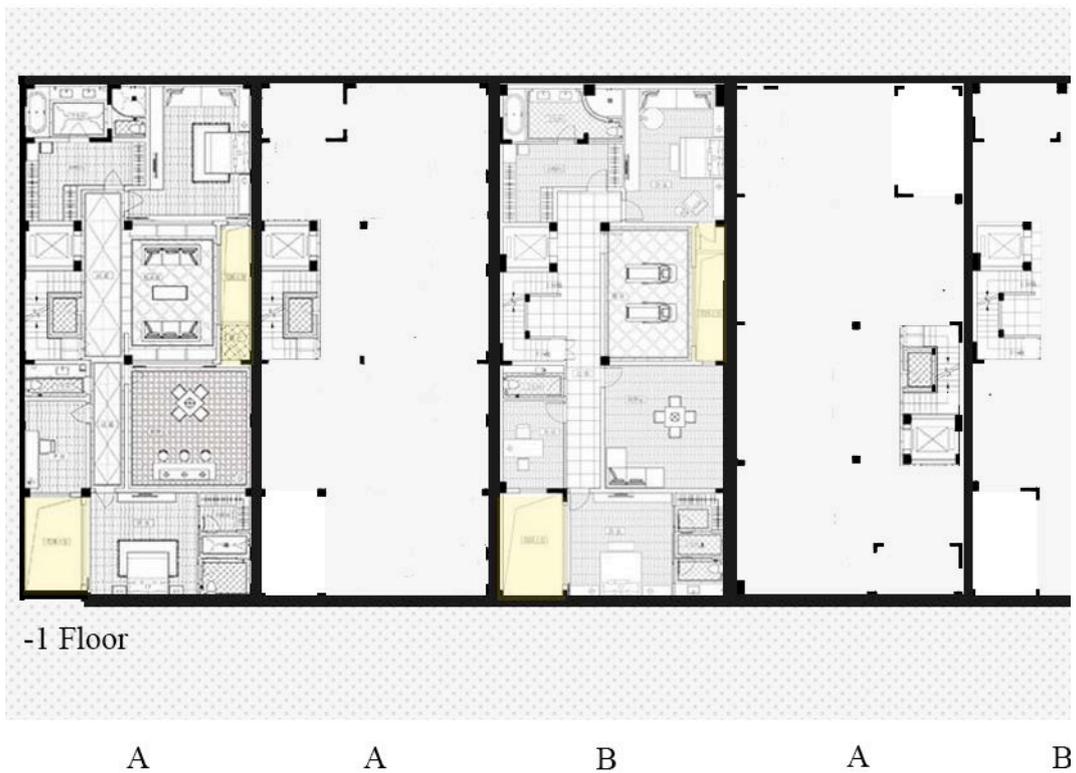
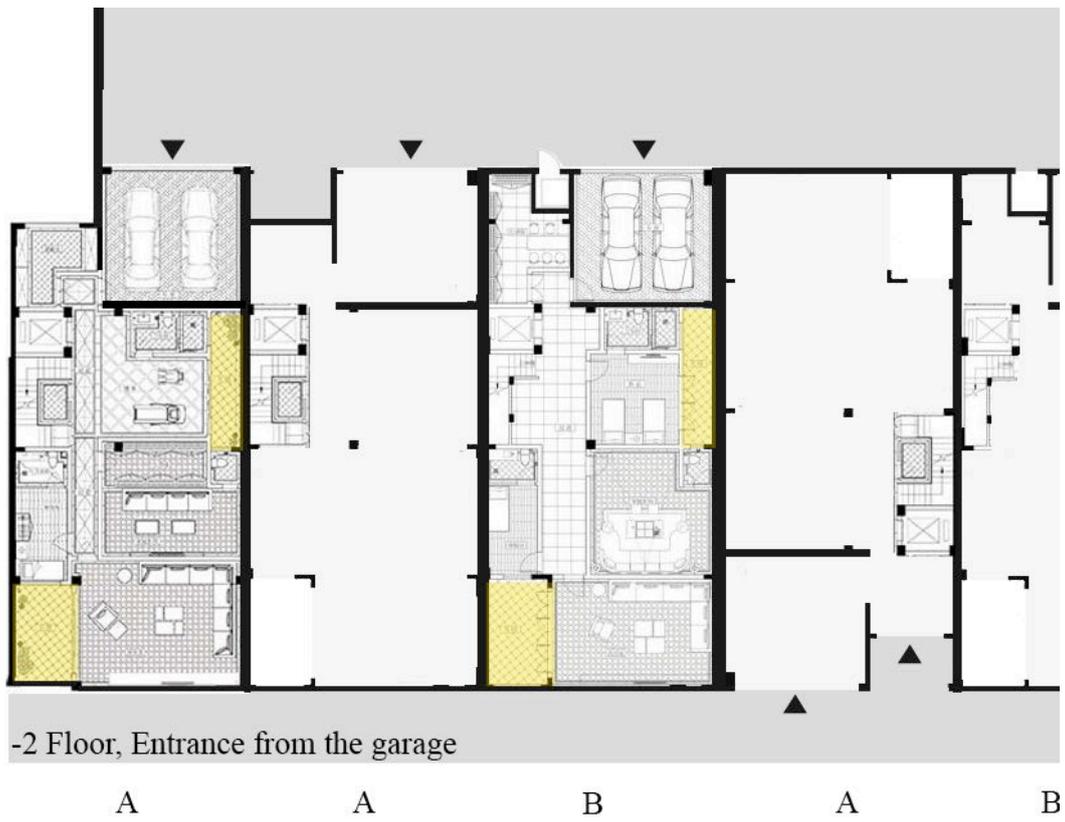


Figure 105 Schematic hypothetical aggregation of two out of four house typologies  
 A 900 m<sup>2</sup> and B 600 m<sup>2</sup>  
 (based on fang.com advertisement plans and modified by author)



-0 Floor Entrance from street level

A A B A B



+1 Floor

A A B A B

Yard Void



Figure 106 Comparison between house property (left) and use (right)  
 In light blue used houses in dark blue unused ones  
 (by author)

From the data collected in loco and through real estate agencies and advertisements all the villas seem to be sold out since the construction phase. On the other hand the fact that it was possible to find an online advertisement<sup>149</sup> concerning one, or more, villas suggest the possibility of an ongoing transaction.

It has been possible to draft an overall map of the houses and take advantage of the on-field observation to identify the possible inhabited house. In some cases, the construction of the interiors made it more accessible as well as the presence of everyday objects visible from the windows. Anyhow the on-field observation and mapping suggest, as well, a quite high percentage of unused villas.

<sup>149</sup> Visualized last time in November 2017 on fang.com

## Outside the City Wall

Nanjing's Region Area has been expanded around the '80 to include in the metropolitan area a number of satellite rural *xian*<sup>150</sup>. At that time the city was already characterized by the core/inner city, surrounded by three suburban districts, defined as inner suburban area due to the proximity to the central city, and three rural *xian*<sup>151</sup>.

Inside the suburban districts of Pukou, Yuhautai and Qixia six small townships gradually became the expansion of the core built up area that, since the '60, experienced a lack in space to accommodate new industries<sup>152</sup>.

One of the first outside suburbs developed by the municipality has been the actual Jianye District taking advantage of a mega-event as the Tenth National Sport Games Event in 2005. The project started in 2001 and was seen, by the municipality, as a good opportunity to market the city (Jingxiang Zhang and Wu 2008). It might be considered the first massive renovation plan of the city, due to the scale of the intervention, and the project that pulled the trigger of suburban city's expansion.

The plan consisted in the construction of the Olympic New Town and, as part of it, of a new CBD<sup>153</sup>. It has been located along the Qinhuai River on its West branch in Hexi District. The location was not only along a natural scenic spot but also close to the inner city that, at the time, was partially formed by traditional structures sometimes dilapidated. Anyhow the chosen area was with no doubt the closest the central and Northern part of the city where education and business activities were located. The project became an important target for the city; to pursue it many administrative changes had been managed, one above all, the district government of Jianye was moved in the area to better manage the situation. The project was a way to improve the image of the city and enhance its position. This was important not only in order to attract investments but also to demonstrate the good activities of the Bureau. Moreover the new town was a good place where people, relocated from the inner city, could be moved. According to the city government in 2001 13.000 households were relocated, the year after other 20.000 and 47.000 in 2003.

Again Zhang and Wu (ibid ) argued that the results were not the expected ones, moreover from the real estate developers side. All the involved developers worked in corporation, with the Bureau as committed stakeholder, after having

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<sup>150</sup> In 1983 Lishui and Gaochun rural districts, located South respect to the inner city, have been added

<sup>151</sup> Liuhe, Jiangpu and Jiangning

<sup>152</sup> Since 1949, after the destruction of 1937, Nanjing has been developed by the Communist Party to host higher educational institutions and to promote *danweis* in order to become a center of production, as State Council's strategies claimed. The inner city was overwhelmed by large and medium industries that in 1960s crossed the walled area establishing satellite towns. Mainly the North and East part of the city were characterized by state-owned units and higher educational institutions.

<sup>153</sup> In addition to Xinjiekou that never lost its role of central shopping area

acquired the land at favorable conditions<sup>154</sup>. Despite the results did not meet the developers' expectations, the Bureau obtained the project it was looking for<sup>155</sup> and in 2005 it planned to further increase its land reserve. Additionally 800 hectares had been pointed out in Pukou, Jiangning and Liuhe Districts (ibid. 222).

Pukou District has been a very important area somehow attached to Nanjing since the very beginning of its history. First traces of the settlements, even if with other names, can be observed since the Western Zhou Dynasty (571 B.C.) but it's only in 1927, when Nanjing became capital of the Republic of China, that Pukou turned to be officially part of it. At that time Pukou was already a manufacturing and industrial area. Moreover "*the residential district of the working classes, backbone of 'revolutionary' China, was located across the river in Pukou, conveniently near the factories where they worked*" (Musgrove 2013, 78) acquiring an important historical status. This brief historical excursus highlights why, also nowadays, this district is particularly important for the municipality even if its location, physically separated from the city by the Yangtze River, makes more difficult the physical unification. Anyhow many plans have been produced for this area that is with no doubt the contemporary long-run project of the municipality (Shiqiao 2014, 70). This is confirmed by the contemporary plans that the municipality produced for a twenty-year time-window (2010-2030)<sup>156</sup>. Some fundamental points are set up about the overall district. First of all the improvement of roads system to better connect the area with the inner city and the surrounding city' suburbs. This will help in implementing the public transport, fundamental resource to reduce the traffic caused by the use of cars and create an ecological zone. Secondly "*rigid control but elastic guidance*" (Nanjing City Bureau plan 2010-2030)<sup>157</sup> on land, trying to improve its efficiency. It is important to highlight the landscape characteristic and connect scattered landscape resources able to transform the district to a cornerstone eco-zone for the entire city. In addition a general improvement of facilities is part of the district's plan. The redevelopment has been presented as incremental, dividing it in seven smaller districts that will be developed in series, each with a different vocation. The first area to be developed is located between the base of Laoshan Mountain and the Yangtze River highlighting the importance of the Natural Reserve<sup>158</sup> and its scenic spots in the territorial planning of the city.

Indeed a second twenty-years plan was presented at the same time specifically on Laoshan Mountain. The plan seems to be based on national and international tourism and entertainment due to the type of buildings described. Moreover it is also interesting to notice that families with children might be a possible target, as indicated by the description of some websites<sup>159</sup> about a close by "French-style"

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<sup>154</sup> The land price in 1999 was 450.000 yuan per mu (1mu is 0.0667 hectares so more or less 667 square meters) but in 2002 the price was already 1 or 2 million yuan for the same quantity of land

<sup>155</sup> The Savills (2013) report confirmed its impact on the city

<sup>156</sup> <http://www.njghj.gov.cn> (in Chinese)

<sup>157</sup> <http://www.njdaily.cn/2015/0707/1161243.shtml> last visit September 2016 (in Chinese)

<sup>158</sup> I.e. Laoshan National Forest Park

<sup>159</sup> <http://news.dichan.sina.com.cn/2015/09/10/1113923.html> last visit June 2019 (in Chinese)

residential settlement. The overall plan takes into consideration the creation of different amenities to serve a wide range of stable and seasonal inhabitants.

### ***SiFang***



Figure 107 Suburban case study position  
(by author)



Figure 108 SiFang location in the Natural Forest Park  
(Modified by author from Baidu Maps)

In this cultural and planning context the area around Foshou Lake, nestled in the Laoshan National Forest Park, has been developed. Actually this part of the Pukou District started to be designed much before the formal overall plan, precisely in 2003, coeval of Hexi Olympic New Town.



Figure 109 Scheme of SiFang First Phase  
(by author)

The analysis takes in consideration a specific portion of the area because the development of housing arose from a peculiar real estate process first started with an exposition project called CIPEA, China International Practical Exhibition of Architecture. Shiqiao (2014, 70) considers it as an emulation of the coeval project of Commune by The Great Wall developed by the real estate colossus SOHO. Surely there is some affinity in terms of location and aim, both the projects are sited in scenic areas with a peculiar landscape.

Moreover in both cases important architects have been called to interpret a main theme, the ‘villa’ in the Commune case and the ‘vacation five rooms house’ in CIPEA. But there are a number of differences that highlight CIPEA as an interesting case study in the contemporary Chinese city. Firstly the *en plein air* Exhibition of Nanjing presents itself as a museum centre<sup>160</sup>, showing one of the first Western collections in China. Additionally it seems to be the first phase of an overall real estate project in which the 24 famous architectures should act as stimulus for the surrounding<sup>161</sup>. The project started in 2002 with the idea of creating an art and architecture contemporary center in Nanjing that had its grand opening in 2013. The developer was Jun Lu, CEO of the Sifang Group<sup>162</sup> that invested in real estate and cultural projects, helped by the son Xun Lu. The group invested 164 million dollars in the realization of the first 11 buildings in 10 years<sup>163</sup>. The project realization faced many problems in terms of local contractors building competences, shortage of funds and difficulties in finding materials (J. Chow 2013). The developer ambition was to gain 20 million yuan per year from the entrance fee and the possibility to rent for long and short periods the houses leading the project to sustain itself in more or less four years (ibid. ). It is not clear if there was a financial cooperation with the Nanjing municipality, as Shiqiao

<sup>160</sup> For instance the museum has been designed by Steven hall

<sup>161</sup> In a recent interview it was said that “the area was still a deserted land covered with wild trees and grass, without any formal walking path” <http://www.vantage-magazine.com/culturalist/Outside-of-the-City-at-One-With-Nature.html> last visit June 2019

<sup>162</sup> In the description of the project many sources refer to Nanjing Foshou Lake Architecture and Art Developments Ltd as the client so the developer might have had different societies to separately manage the museum and the rest of the park

<sup>163</sup> The New York Times estimated an overall budget of 250 million dollars <https://www.nytimes.com/2011/03/20/travel/20nextstop-nanjing.html> last visit June 2019

(2014, 70) claims or not, as it seems to emerge from the interviews of the last years<sup>164</sup>. It is also difficult to retrace the engagement of the original development in the following phases; some Chinese websites speak about a transfer of the project<sup>165</sup>. It is difficult to understand if SiFang's overall project was since the beginning part of the wider Pukou city plan. As a matter of fact, this investment was made more or less ten years before the actual masterplan. So we can hypothesize that, no matter which came first, the project is collaborating at the growing of the new Pukou Town. The relation with a bigger urban program would be helpful in terms of connection with the main city also for the CIPEA project.

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<sup>164</sup> <http://www.vantage-magazine.com/culturalist/Outside-of-the-City-at-One-With-Nature.html>

<sup>165</sup> <http://taohuayuanrc.fang.com/dianping/>, <http://www.xici.net/d234286882.htm> (in Chinese) last visit February 2017

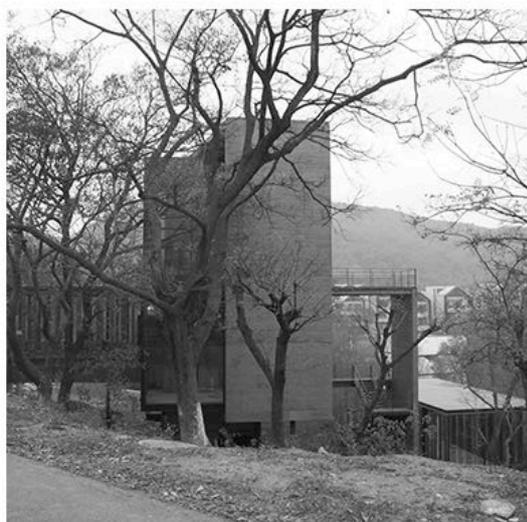


Figure 110 Some of the 'vacation five rooms house'  
(by author)

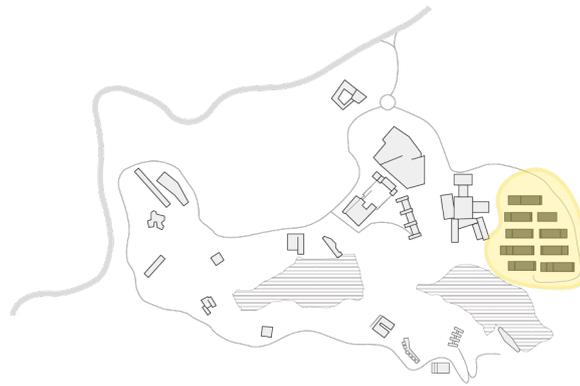


Figure 111 Scheme of SiFang Second Phase  
(by author)

A second phase consisted in the development of 21 Luxury villas located in the North-East area of the park. The access to this residential area is shared with the architecture park but the residential settlement seems to create an isolated niche despite the fact that it is visible both from the entrance and from the lake banks. Anyhow, except from the checkpoint at the beginning of the road and crossing the lake by boat, the settlement is out of reach. Both the houses and the road follow the slope of the hill, slowly showing the underlying lake. By the road it is also possible to arrive at the underground parking lot that, usually<sup>166</sup>, gives direct access to the dwells by a private garage. The 21 houses are, in reality, combined in 9 flat roof buildings, of two or three floors, symmetrically arranged. The houses are different in surface area and layout but all consist in a one floor flat characterized by a free plan. The natural grade of the terrain also helps in diversifying the accesses to each dwell, ensured by pedestrian lanes on the borders and between the buildings.

Apartments are all wide in terms of surface, from 350 to 410 square meters, in some case the underlying apartment is used to create an adjacent roof-terrace for the above house. The overall style of the architecture is rational and Western inspired, almost no walls are visible in facade, and the rectangular perimeter of the houses is mainly glazed from flooring to ceiling.

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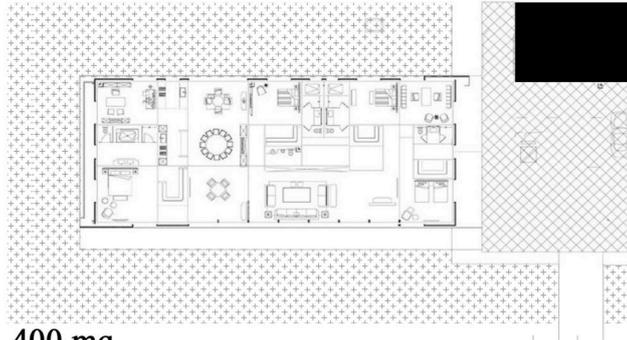
<sup>166</sup> In this case has been impossible to enter so the analysis is based on google maps and renders



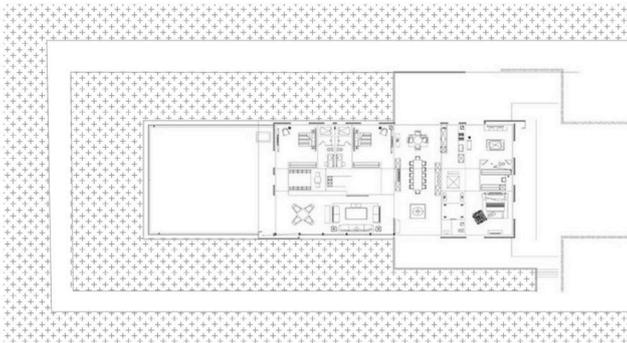
Figure 112 Villas facing the lake  
(by author)



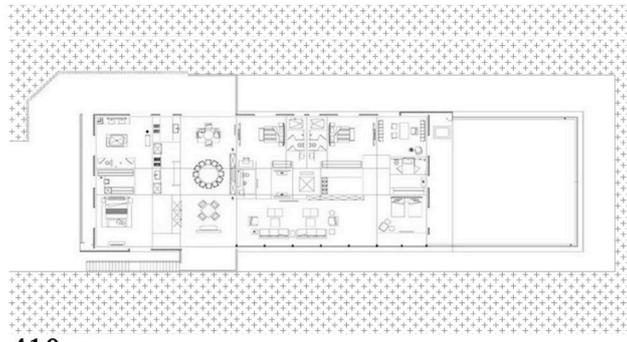
Figure 113 Patrolled entrance to First Phase villas  
(by author)



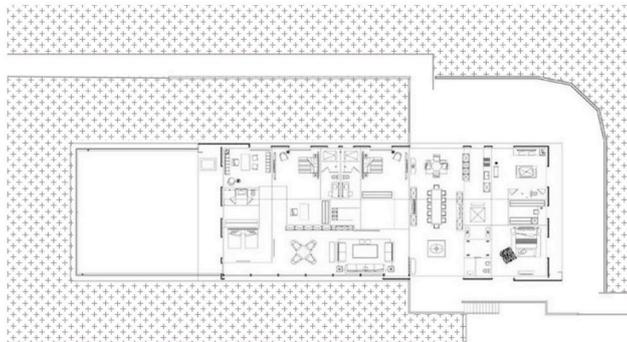
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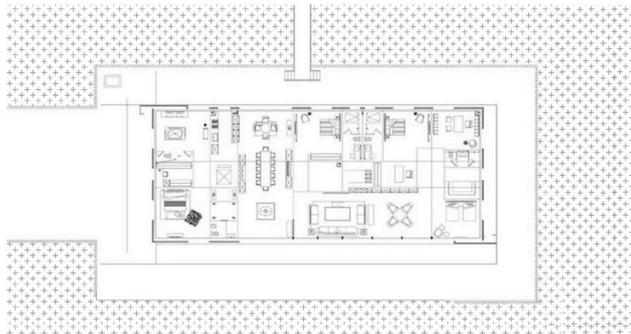


410 mq

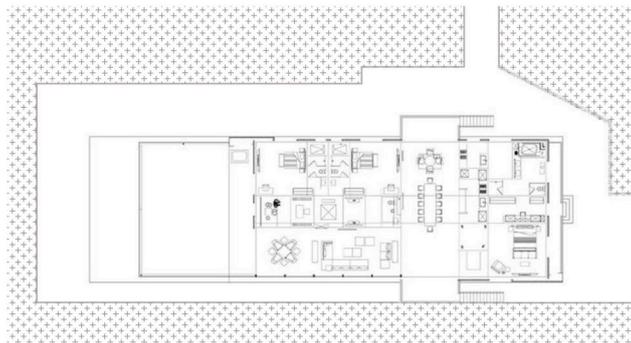


400 mq

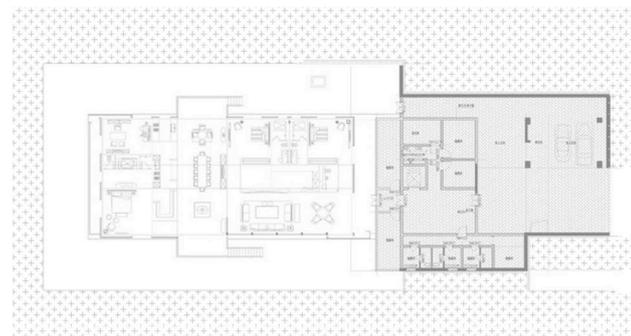
Figure 114 Plans of Villas  
(Modified by author from Fang.com)



400 mq



350 mq



410 mq

Figure 115 Plans of Villas  
(Modified by author from Fang.com)

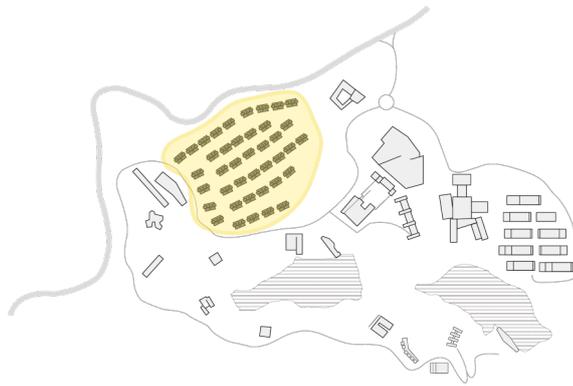


Figure 116 Scheme of SiFang Third Phase  
(by author)

The third phase, launched around 2016 and still under construction, also deals with the construction of 78 villas, located in the North-West segment of the park. In this case it is possible to see the residential aggregate from the principal, and unique, street that separates in two sides the mountain. Until the last survey<sup>167</sup> the unique pedestrian entrance to the residential area was not patrolled, due to the presence of construction workers, permitting a better exploration of the area. In comparison with the area utilized for the first phase's villas, this section is much denser, not only due to the high number of houses but also for the type and reciprocal relation between the buildings. Furthermore the houses do not have a lake view but in some cases, for the ones positioned on the internal boundaries, they have a glimpse on the park exhibition's houses. Indeed, the distance between buildings does not permit to actually have a panoramic view on the surrounding landscape. This might highlight a slightly different purchaser target, with lower current assets.

This phase consists of a unique typology of detached villas of three floors plus attic. Actually, seen from above, houses appear to be in semi-detached arrangement but in reality dwells do not have common walls, the approximate distance being two meters. There is, on the other hand, a wall between the two houses that, thanks to this stratagem, do not have a direct view on the neighborhood inside home. Also for this reason these walls have fewer windows compared to the other three *facades*. There is also a small private garden, surrounded by concrete walls and hedges, that in some cases overlooks the main pedestrian street, and in others a secondary alley. This is the inevitable result of the complete placement, the basic type is, indeed, paired and mirrored in order to create a standalone building that can be replicated. The 'copy and paste' occurs without further mirroring, as a result the main entrance of the houses not always is located in proximity of the main road. The type has been called 'mountain houses', referring to the pinched roof, and it has a main facade, East-South oriented, characterized by biggest windows and balconies in comparison with the other fronts. Each house measures more or less 270 square meters. The entrance gives access to an open space including the living room, the kitchen and

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<sup>167</sup> My last visit has been conducted in November 2017

probably<sup>168</sup> a washroom, in continuity with the balcony. The entrance and yard are not on the same level, the entrance being at the second floor; it seems that all the houses have been built using terracing ground. An inside staircase, visible from the outside, connects the different parts of the house. It was possible to observe the presence of three rooms and two bathrooms at the third floor and an attic room in the attic.

In both cases the group of houses works more as a juxtaposition than a small settlement, indeed, there are no specific common spaces where families can meet, and devise a sense of community, if for no other reason to experience the natural environment of the 'forest'. Despite the Western style of the architecture the morphological<sup>169</sup> approach used to devise the two residential section seems to be more introvert than open to the architecture park.

In this case observing the unallocated units has been more difficult mainly due to the impossibility to get inside the residential compound and have a privileged aerial point of view. According to the brief conversation had with in loco sellers the majority of the one-floor villas have been sold before the construction. Unfortunately sellers were strict in not confirming the price. Also online advisements<sup>170</sup> do not report price and number of unsold units. Anyhow during the last survey<sup>171</sup> in one villa some signs of possession<sup>172</sup> were visible.

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<sup>168</sup> Until now it was not possible to find plans of the houses and the description derives from on field observation during the construction so the inside was still rough construction

<sup>169</sup> Here used in a "Caniggian" sense

<sup>170</sup> <https://taohuayuanrc.fang.com/>

<sup>171</sup> November 2017

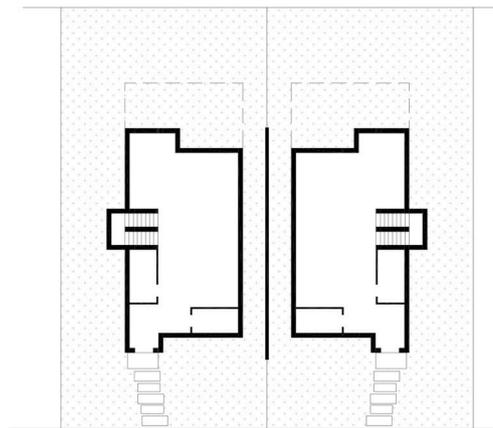
<sup>172</sup> A kid's bicycle on the terrace and a person cleaning inside



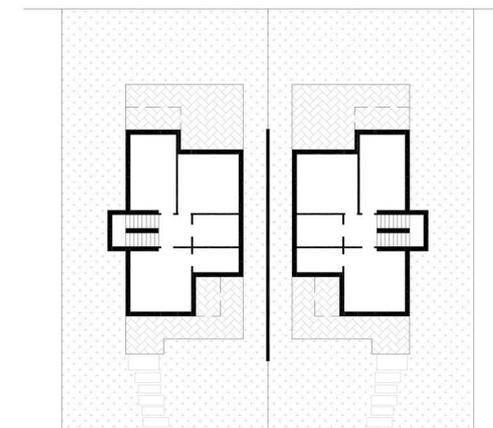
Figure 117 'Mountain' Villas Settlement  
(by author)



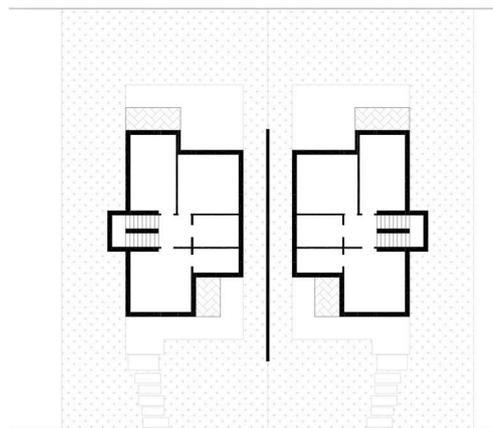
Figure 118 Pedestrian Street inside the Settlement  
(by author)



0



+1



+2

Figure 119 Plan of two 'mountain' Villas  
(by author based on field observation)

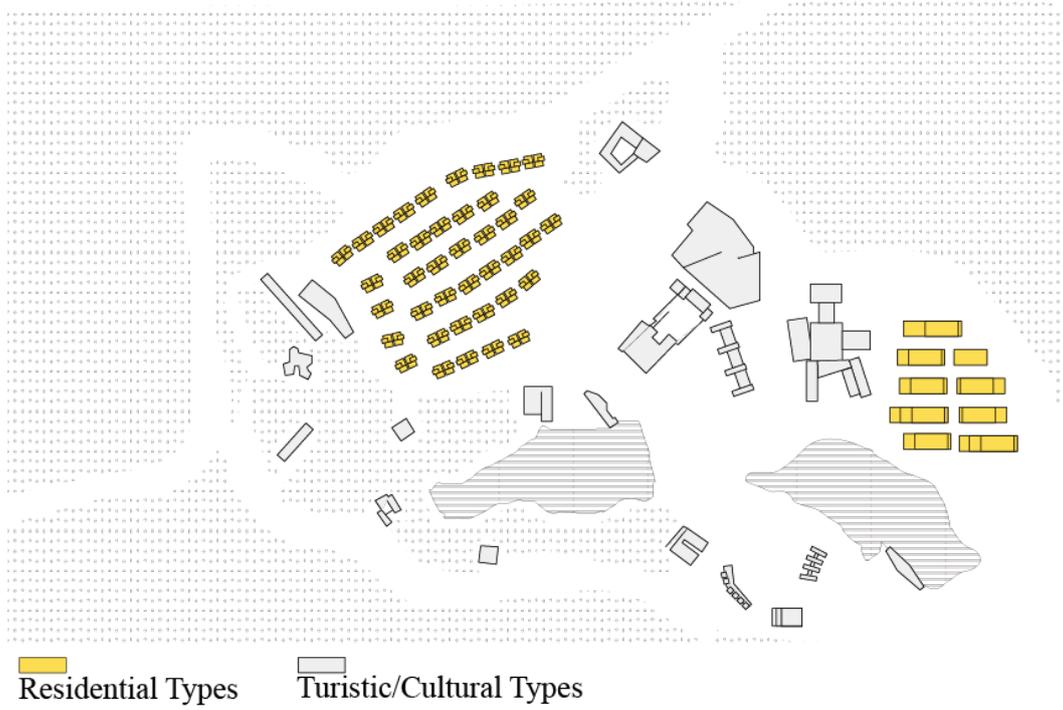


Figure 120 Scheme of types used in the settlement  
(by author)

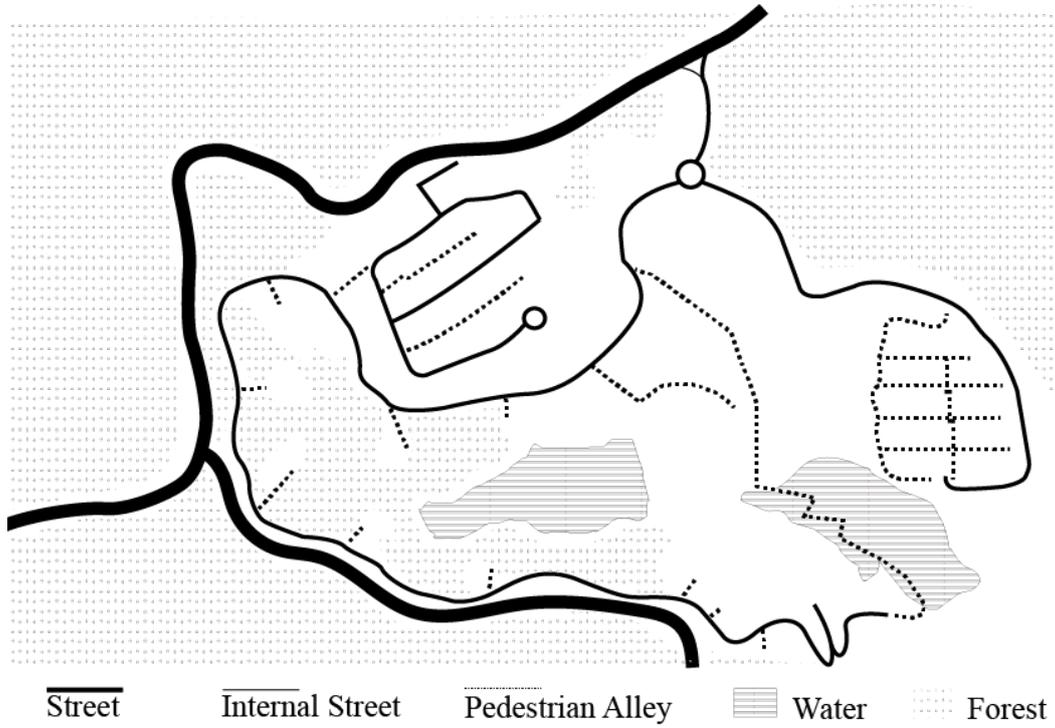


Figure 121 Scheme of networks inside and around the settlement  
(by author)

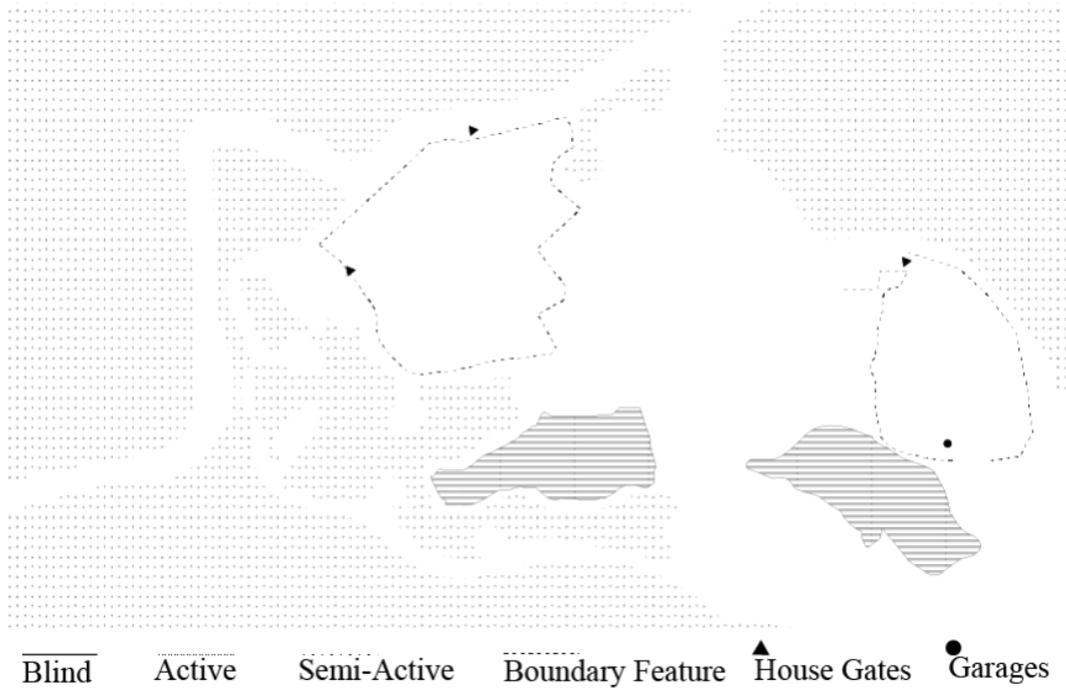


Figure 122 Scheme of boundaries activity.

Active refers to high density of doors and windows. Semi-active low density of doors and windows. Blind have no doors or windows. Boundary feature have free-standing wall  
 (by author)

## Comparing processes



Figure 123 Logos of the two processes of LaoMen Dong (left) SiFang (right)  
(by author)

The above cases describe how economic dynamics, specifically attributable to the luxury real estate market, can actually transform the city. In the same way, they seem to exemplify the overall contemporary Chinese's trends through their similarities and differences.

LaoMen Dong, located inside the proper city along the city's wall, is part of a general plan designed by the City's Bureau to be accomplished in a twenty-year program (2010-2030). The scenario is framed in the 'Historical-Cultural City Preservation Planning' started in 2002, of which this new program is the continuation. The project is organized in single spots, mainly located in the south part of the city and entrusted to different single private developers, with no clear connections. Since the projects are part of the historical renovation, the Bureau and the developers directly agreed upon the assignment (You-Tien Hsing in F. Wu 2006, 167-189). This might encourage speculation around a potential private-public collaboration. The location and the previous consolidated urban fabric also required to relocate a certain number of inhabitants.

SiFang on the other hand, seems to describe a slightly different story, in which a private developer invested in a completely undeveloped suburban area some years before the formal Bureau plan for the zone. The mixed cultural-residential settlement started to be built in 2003 as a solitary project that, nowadays, can be considered part of the twenty-year plan (2010-2030) of Pukou District organized in successive phases.

Both investments took advantage of the enthusiastic tendencies of the Chinese real estate market, experiencing a continuous rise in prices since 2000. In this sense, our cases can be both inscribed within the framework of the irrational market dynamics in the first decade of 2000. The phenomenon mainly affected first-tier cities, but also middle-size cities like Nanjing faced similar trends.

Even if in different ways, both the interventions took advantage of the positive prediction of returns thanks to a peculiar combination of long-run enthusiasm in prices and rise in average population incomes. On one hand, the project in the inner city takes advantage of the location and the high appeal of land in the inner-city; consequently, relocation costs mainly involved

compensations or providing new dwells to relocated inhabitants: these costs can be considered as negligible compared to prospective returns for the developer.

In contrast, the suburban development represented by our second case is a good example of a different commercial strategy, based on lower land transaction fees, lower construction costs (Glaeser 2016) and a guess, may be educated, that the continuous increase of prices that China experienced in the previous years would not break up.

Anyhow a similar approach can be observed in the decision of creating an 'attractive element', cultural in the Pukou and commercial in the LaoMen Dong, before starting with the residential settlement.

Even considering the above similarities and differences, both cases deal with a demand composed, in an unknown proportion, of consumers that are people actually looking for a residence and investors that are people looking for investment assets.

All in all, the empirical evidence witnesses a very similar level of vacancy in Laomen Dong and in Sifang

# Reading disposable empties

The work conducted on case studies, allows to articulate some observation about new trends of growth in contemporary cities, with particular interest to the Chinese context. Looking together at spatial transformation phenomena and demand/offer formation in the real estate market might facilitate the expansion of knowledge on the city's expansion outside the usual demand-supply frame.

The phenomenon of vacancy has been useful to examine growth dynamics in the urban context. When demand does not clear the supply in a generic market (i.e. produced goods are not consumed and remain in the inventories of the firms), one can normally deduce that something not completely rational or at least really unexpected happened, for example wrong predictions on the supply side. In the real estate market, where the production cycle is normally very long, this is not surprising. Indeed the vacancy rate is an important index to evaluate the market's conditions. In the Chinese context, however, this phenomenon seems systematic and has a magnitude that cannot be explained by prediction errors. Due to the continuous expansion of the cities, vacant spaces are not only scattered into the urban tissue but can be often recognised in high spatial concentrations. In addition, it is possible to observe a different timing in allocation dynamics (Chang Liu and Xiong 2018). Vacant spaces can be traced in settlements with various characteristics and belonging to different estate segments: from subsidized housing (Quan Chen et al. 2013) to affordable dwells and, presumably, in high-end submarkets. Moreover, the phenomenon has different substance depending on the administrative level of the city (e.g. first, second, third tier). In the case of the city's expansions in first and second categories, a high vacancy rate is most probably the result of a mismatch between supply and demand. In the latter case, as reported by the in loco research, demand and supply meet, but spaces remain unused. Of course, in both cases, there is a visible feedback on the city, but in the case of a mismatch, it is plausible to expect that vacant dwells will eventually be absorbed by the market even though with a delay (Chang Liu and Xiong 2018) or through *ad hoc* policies (Mak, Choy, and Ho 2007). On the other hand, in the case of a 'planned' vacancy, city's processes might be more deeply influenced. Moreover, considering the relevance of the phenomenon on the urban tissue, we have to consider that the city organizes itself to include and make available these settlements creating services such as public transports, schools, parking lots. Even if this estimation is based on the long run, in case of settlements characterized by a high investment rate, these might experience a long-term vacancy with a consequent oversupply of services and infrastructures. Moreover, the concentration of vacant dwells in a delimited area, as described by the above cases, might make the urban tissue impenetrable both physically and perceptively. This possibility might lead to the sprawl of this perception in surrounding areas as

mentioned by Keenan et al. (1999), Mumford and Power (1999), Whitaker and Fitzpatrick. (2013). What has been observed describes a different phenomenon in comparison to ghost cities that, even if characterized by a high vacancy rate, because of their satellite position, with respect to the city, do not directly influence a specific part of the urban tissue. Moreover they are built to be autonomous in terms of services, especially sharing infrastructures with the urban core. This feature of satellite settlements might help to accelerate the reversal of the vacancy trend.

However, the cases focus on the apparently contradictory situation where residential units are almost completely sold out, but, at the same time, they result unused. This puzzle cannot be solved unless we remind the dual nature of the residential real estate market in which both consumption and investment goods are sold. Indeed, it does not seem to exist a data useful to define how a certain estate is utilized after its purchase. Moreover it is crucial to highlight that an *ex-ante* consideration about it is difficult.

Moreover, referring to the Chinese context, the practice of ‘sell rough’ and ‘sell on paper’ may further blend this understanding. If the unfinished state may be an evident clue of investment in European or US countries, where houses are sold complete of plants design and finished, that is not taken for granted in China. Here, almost all the firsthand houses are commercialized rough.

The conducted observations led to hypothesize a predominance in investment connotation of the considered settlements.

This seems supported by the on-field typo-morphological work, also linked to the retrospective analysis of the Chinese city, that permits to formulate some further considerations. Indeed, it is belief of this work that the villa is not an accidental choice for a developer interested in intercepting investment flows. Again, in considering the high-end market, high rise towers can ensure significative returns thanks to the high inhabitants’ density compared to the cost of land. Villas, in contrast, can allocate fewer families per the same land and the price per square meter does not seem to be mainly influenced by the type but rather by the market’ segment.

As mentioned, the city’s morphology is inevitably influenced by economic necessities. This not only refers to the scarcity of financial resources or profit optimization but, in a broader sense, to maximize the city’s response to specific issues such as people migration and growth, scarcity of buildable land, housing need in specific submarkets. The city’ shape that emerges thanks to the conducted analysis seems to suggest a new logic of expansion. Until the ’90, when China experienced complete parting from the planned economy, the city seems to be strongly shaped by economic decision direct to solve the imbalance between housing requests and scarce land. This led, at the beginning of the 19th century, to the densification of previous typologies (e.g. *Shikumen*) but also to the abandonment of traditional types in favour of high-rise typologies able to maximize the allocation of people per square meters. Moreover, during the non-market phase, even if the land had not a transaction value, typo-morphological

decisions relapsed on compact buildings with high-density inhabitants. This attitude of optimization persists in contemporary China, which still has to deal with similar challenges. On the other hand, the increase in morphologies as those analyzed seems to indicate the thickening of specific forces acting on the city, such as the growing need for social representation. In this regard, the city seems to grow not only as an answer to future residential needs but also with the attention to intercept clients' specific needs, such as an expansion and diversification in portfolio assets.

On this matter the presence of villa' settlements, like the ones described by the case studies, cannot be considered a total novelty: some prototypes of villa communities were built at the end of '90 in Guangzhou, to serve "Hongkongese" expats desires of new residential types (Siu in J. Wang 2005). Nevertheless, new luxury districts as Theme Towns in Shanghai well exemplify the ideological innovations of the contemporary Chinese city. These new types seem to be strongly connected with the desire for self-representation. On the other hand, the fact that the specific type of the villa has been identified from the developers as a potentially fruitful investment, instead of high-rise or medium-rise typologies, results interesting because it can be considered the physical representation of a new middle-class (Pow 2009). The spread, in the last decade, of such types from first-tier cities to second and third ones, is also engaging. These types were inserted in the Chinese tissue mainly through international investments and companies operating in first-tier cities. For this reason, the widespread to lower administrative cities seems to indicate a deeper internalization of their principles. Moreover, it bends the prospect of a developer's irrational behaviour in favour of an aware evaluation.

Furthermore, the villa type may have some intrinsic morpho-typological characteristics that make it especially suitable in the Chinese investment market.

First of all the deep and continual morphological connection that urban villas, such as the ones exemplify by *Laomen Dong*, create with the street results in a broader range of functions such as shops, workshops and showrooms. In *SiFang* semidetached houses, on the other hand, the privileged relation is not constituted with the street but with the landscape. Anyhow the two cases maintained a predominant introvert inclination that further opens the possibilities of their use. Business-oriented houses, wholly equipped with functional and leisure facilities such as KTV, are an increasing trend. Here, the businessman can meet clients and close deals, taking advantage of a comfortable and luxury isolated context.

Even if the same aim can be physically obtained inside some other typologies, such as a tower, the results in accessibility and visibility from the outside is far from being the same.

If this may be true considering a shift in function, and market, the villa might also be more challenging to divide because of its intrinsic nature of high-end good. Its typological characteristics make it physically indivisible, or at least quite expensive to subdivide, thus not advantageous. Even if this may appear as an ambiguous edge, particularly by the Western standards, in a semi-planned economy, subject to specific policies to minimize vacant dwells and over

construction in luxury market, this type may also be strategic. The policy carried out by some Chinese local government to buy vacant commodity dwells from the developers (Kroeber 2016, 80), intending to transform them in affordable houses and face the residential shortage, maybe ineffective if applied to villa settlements.

The above considerations focus on the possibility that a specific typology has been chosen to pursue an investment target both from the developer's and buyers' sides. Certainly, the incidence and characteristics of a specific type concerning economic decisions might also be evaluated in relation to the city's context. In China, this specific type seems particularly relevant due to its relative novelty if compared to the rife type of high-rise types.

Moreover, even if it is difficult to verify if there is a difference of quality in construction between villas and other contemporary types, it is possible to hypothesize a significant difference in the costs of maintenance. High rise gated communities have both internal common spaces and facilities, such as elevators, corridors, glass walls, and external ones, such as clubhouses, gardens, pools. These features, at least in the two cases analyzed, are absent. This may reduce the maintenance costs and make the entire settlement more suitable for long-term inoccupation.

In these settlements, it is possible to observe two, only apparently, opposing tendencies: on the one hand, the existence of a centrality (commerce in *LaoMen Dong* and cultural/touristic in *SiFang*) able to attract people and investments. On the other hand, it is possible to notice the almost total absence of services linked to residential habits.

The comparison between the two cases and the contemporary city's morphology, highlighted the importance, in the high-end market, of some services. Some of these features, such as the isolated context, the gated morphology and an overall introvert tendency, are linked with privacy issues. On the other hand, the location seems to be influenced by services, such as airports, high education centers, typical of an international and high-end clientele. In turn, such specific oriented communities, call for peculiar services both inside the settlement, as club houses, and in the immediate surroundings (Giroir 2006; F. Wu 2006). Some essential spatial features that characterize luxury and hyper luxury compounds are the presence of inner clubhouses, shops and community services. Such commodities can be, even if not unambiguously, descriptive of settlements having a consumption target; these services, plus the overall compound management, are indeed paid by the community inhabitants. Moreover, the quality of these services, in terms of quantity, variety and custom-tailoring seems to be the actual index to discern the 'luxury level' of a compound or a gated community. Even if this observation cannot be widely recognized and applicable due to the scarcity of studies specifically focused on this aspect, it is anyhow a significant morphological difference in comparison with similar projects. This, of course, does not exclude that units in compounds with those services can be used as an investment. Moreover, the above observation does not exclude the possibility that the developer tried to offer a morphological and ideological

evolution of this market' segment. However, even considering a 'democratization of the villa' (King 2004), the total absence of such commodities in Nanjing cases empathize the hypothesis of settlements devoted to the investment market.

Considering that the investment operations are strongly related to the time of the investment, the success of the financial operation is based on moving up the construction phase with the perspective of a future rise in prices thanks to a growing demand. On the other hand, the investor buys a good that, overcoming maintenance concerns (Glaeser and Gyourko 2005), will proportionally lose its value along with the decrease of land-use rights horizon. This facet of the 'investment vacancy' is still difficult to explain without taking into consideration irrational behaviors.

On the other hand the results drafted through the cases considered, cannot easily be inscribed in a speculative attitude. Nevertheless, abundant manufacturing direct to long term vacancy might accidentally stoke irrationalities.

The work seems to confirm what other scholars (Cook 2010; Hirt 2012) expressed regarding post-socialist cities. In cities that experienced a transition from planned to market economies seems to emerge an inclination to build in a high-end submarket with investment target. In this transitional scenario, in which the attitude to invest can be considered a novelty, the spaces devoted to this function might arise in specific city's transformation/portions determining aggregations and concentrations of specific types. The leaded observations highlight that in specific situations, peculiar morpho-typological decisions might be used to pursue definite economic targets, as the investment.

Conceivably, this approach might also be recognized outside the city in analysis, certainly with local differences, and considered a widespread trend. The morphological structure, especially in the suburban case, seems to recall international models particularly suitable, for their partial connection with the local tradition, to be replicated and deployed.

The opportunity to acquire information through an interdisciplinary approach at the crossing of two disciplines reveals itself as operational to open up the knowledge on the analyzed phenomenon. Both architecture and economy move in the direction of understanding reality and its eventualities. However, the research also highlights the different interpretations that the two disciplines give about the same space. Economics reflects the attitude of modelling equilibrium situations, and normally neglects temporal layering. On the other hand, architecture, ed in particular morphological studies, firmly base their awareness on spatial legacies, particularly on 'deviations' and repetition between past and contemporary forms. The interdisciplinary approach can thus expand our knowledge on these path dependent phenomena.



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# **Stories from Nanjing**

*I arrived in China for the first time in November 2016. Nanjing was the first city where I experienced the Chinese culture and living habits. Despite its seven million inhabitants, it is considered a medium city for the Chinese standards. Anyhow when I landed there, it was a rainy day: not a good encouragement to face a new country so far from home. The brave choice to move from the airport to downtown by public transports was rewarded by the sightseeing offered by the foreshortening of the countryside around the city: a landscape made of rural villages and cultivated fields. It was not so different from some Italian images of the Pianura Padana, the only relevant difference was the total lack of mountains on the skyline. The small train did five stops in this peripheral area and despite my effort it was pretty impossible to understand the consistency of small urban aggregations outside the dense city.*





*The first approach to the urban settlement, on the other hand, consisted of dense suburbs made of tall buildings, moreover, aggregated in enclosed blocks. The streets were rich of bikes, cars, motorcycles whizzing from any directions; as well the sidewalks hosted a lot of unusual activities compared to European cities: temporary food shops, crowded bicycles in several places, birds' sellers.*



*After one hour and a half, I finally arrived at the city wall, the limit of the proper city. Nanjing indeed was a former capital, the South capital as proved by the presence of the symbol of the imperial power. It was realized in 1366 and consisted of four accesses: one from each cardinal point, according to the traditional culture. The south gate, the most preserved one, is one of the main entrances to the city and allows people to go up and walk or ride a bike along the path on the wall. Many locals seemed to do that. Just outside the wall, the Crystal Pagoda is one of the contemporary landmarks that pointed out the access to the city center and showed off the current economic power of the city.*



*Passed the ancient south gate, the dense city is divided into seven districts, smaller than the suburb and rural ones. The landscape, on the other hand, alternates contemporary tall buildings and some small remade historical blocks. The CBD lied at the crossing of two main streets that cuts the city in four quarters. Here, according to my brief studies on Chinese cities and my European belonging, I expected to find the historical city center and some ancient monument such as the imperial palace. Here, however, the string of city's assessments had moved the palace to West, where we could see some ruins, next to the National Museum of the city. Looking at North-East, outside the city wall, I saw the Purple Mountain and his big park with several scenic spots that tell the Chinese history, like the Sun Yat-Sen mausoleum. At the base of it, there is the Xianwu Lake with its small islands and several pathways on the sides.*



*Laomen Dong (老门东) is a neighbourhood in the South part of the city in the so-called cultural area for the concentration of loisir and cultural facilities. His relevance is directly related to the touristic role that the municipality delegated to this place. Despite its current role and the investment made, the neighbourhood is not reached by the underground and according to some rumours, it is not considered the best place to live: too chaotic and with several poor houses in the surroundings. However, according to the number of people who lived in this district, it seemed that for someone this area is one of the main living answers. Anyhow to arrive here I took a metro to FuziMiao, another touristic and commercial place realized some years before. This area is connected to Lomen Dong by a straight street and just considering their nearness and the common functions might seem a continuous place. Both these places indeed were characterized by a touristic role and a predominance of commercial spaces.*



*The previous residential tissue has been relocated leaving space to a new image of the city that recalls the traditional Chinese atmosphere. So moving through the streets of FuziMiao and LaomenDong I saw several wooden buildings, enriched by red and golden decorations and a great number of different shops. This areas of the city somehow changed my expectations, made of tall buildings, megastructures and hyper-technological skyscrapers. Here, the feeling was to be in ancient China, made of wooden roofs and courtyard houses, with a touch of contemporaneity given by the concrete of the structures and the popularity of international brands in the shop windows.*



*Once crossed the gate of LaoMen Dong, on the main entrance, I walked along the main street that moves toward the city wall; the wall is not reachable from here but acts as a background scenario for the whole area. This path, on the other hand, works as a backbone for all the east part of the settlement and consist of a pedestrian walkway overlooked by several shops, placed on the ground floor of courthouses, apparently similar to the traditional houses employed before the '50. Walking away from the main road, in the narrow secondary streets, the number of people decreased.*



*Despite the variety of goods offered, only the street food shops appeared able to attract people. One of them particularly lured my attention: a small shop with an oven and a desk who sold a local snack made of puff pastry and black crushed sesame. Despite the small size of the shop, four workers dealt continuously with dozens of customers. Some streets ahead, in a small square, three other street food shops called many people, becoming the most attractive places in the area outside the main street. I had heard about the relevance of the food market in the Chinese economy and this scene seemed to confirm this idea. In Taiwan, for example, I understood how the Night Markets were real attractive nodes for tourists as well for inhabitants. However, next to these shops there were several vacant spaces. As I left the main street their number and evidence increased.*



*If in the beginning the empty spaces were few and located mainly on the upper floors, in the most peripheral areas these were predominant and affected both the commercial and the residential units. Inside there weren't any furniture or interior finishes but in China, it is usual to sell also residential places unfinished. Just in a few of them, I saw some workers inside, suggesting a possible future use. At the info point, they could not share with me how many of these spaces were already rented. The project was financed by a private developer under the guide of the Municipal Bureau, so the official data are not public. Several places, some locals said, had a signboard for a long time and none seemed interested in buying them.*



*The renewal project contemplates replacing the ancient dense tissue made of courtyard houses with a zone mainly made of commercial spaces, completed three years ago, and a second development zone, to West, with several residential villas. Arriving in the second zone I crossed a driveway that works as a boundary of this area. Indeed, the cars cannot enter inside the plot, except to arrive at the underground parking.*



*The second transformation was characterized, above all, by houses development. This type of transformation can be considered uncommon: usually the renewal processes in the inner city had a predominance of commercial spaces to attract tourist and, on the other hand, houses were gated and patrolled. This novelty also reflects a modification of types and morphologies. The project seemed to weave multiple styles and shape, the hierarchy of internal spaces itself seemed to be a free review rather than a conscious remake. Furthermore, also looking at the streets and the surrounding urban structure it was really different from many traditional areas observed just outside LaoMenDong, made of dense houses and narrow streets.*



*The houses were collected in small aggregations, each one with a common and private path closed to outsiders. So I could just look inside the windows and through the half-open doors. What was unbelievable, regardless of the different shape of buildings, was the sense of loneliness that was perceived moving along these streets, not only along the roads but also in the surrounding empty buildings: the shops, the houses, the public spaces, everything seemed on hold, without users, inhabitants or passengers. The small number of open activities prompted me to map their number and position and after finishing the facilities I started to count the houses in use.*



*No restaurants were here, just a few calligraphy shops and a tea houses. This feeling of desolation was also fed by the water games turned off, by the empty artificial lake and by improper use of the streets: the area is so quiet that in one of the pedestrian roads I saw the fire-fighters doing exercises with the hydrant, disassembling and reassembling it several times. We shared the same street for over an hour, I redraw the surrounding architecture and they did their exercises without any external interference. Despite the absence of people, in this area everything was neat and in perfect order; during my exploration, I met a man in uniform pulling dry leaves fallen from the trees. After repeating the operation several times, being an autumn windy day, the man climbed the tree to shake it in the hope of removing the problem, with a poor result. I had already observed similar attention in parks and public spaces as well at the edge of roads, before the rain, to prevent the clogging of manholes.*



*Considering the location and type of development, the attention in keeping stable the image of the place is important in terms of commercial appeal. On the other hand the multiple padlock that kept closed the doors highlight the inoccupation of spaces. Luckily, in my wander, I saw an unlocked gate and I had the opportunity to explore some internal spaces. However, when I came again in the next days the lock was restored: the safety perception is a serious matter in China also in unused spaces.*



*A year later I came back to LaomenDong several times without relevant changes. Just during my last visit in late 2017, I saw some improvement: some new shops and a few new houses had been in use. Luckily during this last inspection, I was with a friend and teacher of the Forestry University of Nanjing thanks to whom I was able to talk to some operators and users met there. One of them was the owner of one of the villas. Mr. XX was a businessman and his son was studying in the capital city.*



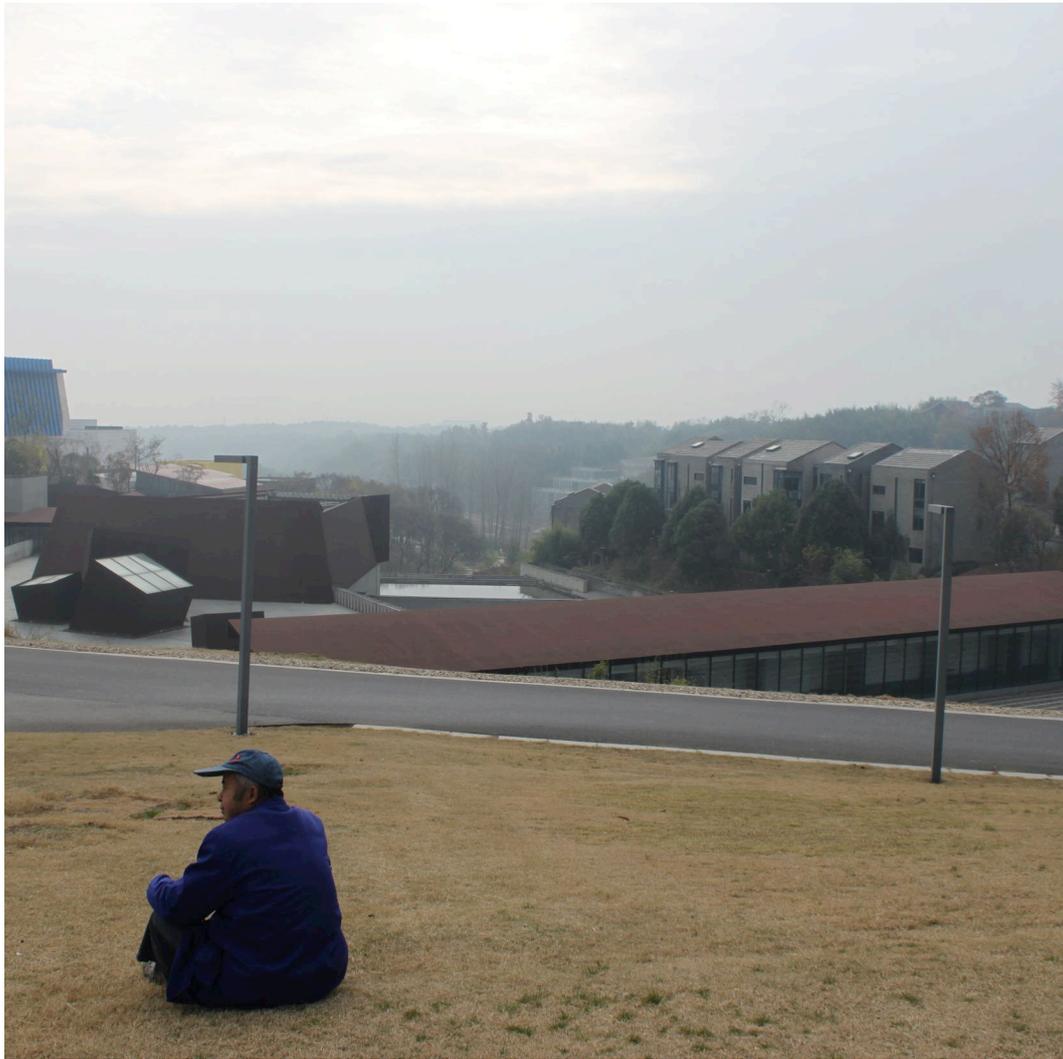
*After having chatted for a moment and having known that I was an Italian architect hosted in the Tsinghua university of Beijing, we earned an invite to enter. A stroke of luck. It was the first chance to enter in one of these villas, although I had collected several plans and pictures from real estate agencies. The type owned by Mr. XX was the smallest one, 600 square meters, organized on 4 floors, two of them underground. He proudly told me that the specificity of these houses is the presence of a courtyard that allows having windows also in the underground levels: a shaft of light is used as a small garden, depth around 3m, in the middle of the block. On the other hand no windows on the first floor face on the street. This space actually allows you to enjoy a glimpse of the sky. Mr. XX said that he spent around 2 million RMB to buy this house, but he claimed that its value now is grown up of 25%. According to the information he had all the 88 villas were sold out but just three of them were to be lived in the next future. Every house has a garage in the lower level, connected to it through a room that Mr. XX is changing to a home theatre room.*



*During a dinner with some colleagues and professors, they told me the interesting story of a project realized not so far from Laomendong, always in Nanjing, but in the periphery. Some years before, the businessman Lu Jun and his son decided to invest in an open sky architectural museum in the PuKou district, on the west bank of Yangze river. To realize it they called several important architects from Europe, Asia, and America. The intent of the new “SiFang Group” was perfectly in line with the urban strategies promoted by the municipality to renew the role of the area for the city. It suggested a new cultural vocation with theatres, golf clubs, sports areas, resorts and rich villas in the natural reserve on the west hills. And also there the vacation rate appeared evident, so I decided visited it.*



*Going there was not easy and on colleague suggestion, I decided to move by taxi. The area seemed very busy on weekends: I saw many families, seeking shelter from the heat and smog, getting off public busses. Arriving at my destination seemed pretty hard: the nearest metro station is several kilometers away from there and also communicate to the taxi driver the final destination was not so easy for a non-Chinese speaker like me. However, during my trip, I saw some bus stops on the street more or less 1,5 km from my destination so I decided that should be easier coming back by public transport instead of finding a way to explain to the taxi driver to come back and get me in an hour. Maybe I could have spent more time but, luckily, the current mobile technologies were really helpful. Anyway, I finally arrived on the top of Laoshan National Forest Park hill, one of the rare places far from the urban traffic and surrounded by nature. Along the lone road on the hill, I saw several gates beyond which I noticed isolated compounds made of several big isolated villas. Each aggregation had a different aspect: some of them were neoclassical, other modernist and so on.*



*The thought about such a different tissue, compared to the density of the inner city took me to the entrance gate of CIPEA (China International Practical Exhibition of Architecture). There was no parking and a supervised bar prevented the entrance to the cars without a pass. So I greeted the driver and I bought a ticket to enter. Considering the registration number of the coupon and although it was not very early, I was the only visitor that morning. The first building that caught my attention was the very famous project by Steven Holl, realized in 2013 and put on the top of the hill.*

*Considering the high position where I was, I could see the valley below as well as all around over the fences of the park. On one side I saw a building site where some workers were working to a new settlement apparently made of traditional style villas. Some hundreds of meters ahead I peeked another complex of villas, here in neoclassical style. Just outside the fence, there was also a temporary village built with container directly on red beaten earth, probably devoted to workers of the building site just next to the main entrance to the museum.*



*The park, on the other hand, is an architectural exhibition of living: 25 buildings were dispersed along the path that goes down to the artificial lake. Every one investigates a new way to dwell: some of them seemed to be designed to become hotels, with conference spaces and halls (i.e. the one designed by Liu Jiakun and Arata Isozaki; others were leisure spaces (like in Sottas' one) but most of them were real houses, complete of furniture. Some of them had underground structures, others used organic shapes, others were monolithic and had different space hierarchies and gardens. Walking there I noticed that I wasn't alone: again several cleaners worked to keep safe and clean the park and its structures. However, despite its recent realization, several of these buildings were already dilapidated, sometimes even unsafe and a few of them seemed uncompleted. Some broken doors gave me the chance to get inside some buildings officially closed to the public and my condition of foreigner, as I had previously understood, prevented some rebukes for it. In some of these objects, I could observe some alteration of the original project and some unexpected use: in the white cube of Zhang Lei, some rooms were panelled internally, others were used by workers, as some rice cooker in the kitchen demonstrated.*



*Indeed in the park lived over 300 people, if we understood each other well with the man at the gate, in blue containers located in two places of the park. Actually, I intended to ask how many the inhabitants of the nearby villas were, but in this case, the translator didn't help enough. I have not mentioned that, all around the park, in two areas around the lake, were built some other villas that take advantage of the exhibition as part of the landscape.*

*Finding information about the price of these villas did not seem too hard: there was a purchasing department inside the park and some of them were published by estate agencies. It was much more complex having information about the number of them still free, also because in China many dwellings were purchased several years before being used.*



*The typologies of the two areas were pretty different: the villas on the lake were actually large dwellings on one floor but superimposed two by two and surrounded by nature. They were enclosed by a fence and supervised day and night. The access was through a gate which allowed me to look inside. Luckily all the external walls were made by glass and I could see inside: in none of them there were living signs and the closer villas were completely empty, without furniture or internal finishes. Just in one of them, I saw some colourful games on the terrace and a bicycle. Furthermore, in one other, there was a woman with the maintenance uniform who was cleaning inside.*

*I spent quite some time looking at what happened inside until one of the watchmen started to watch me, clearly not knowing how to invite me to leave.*



*So, I decided to move to the other complex next to the main gate. Here the so-called 'mountain roof' villas consisted in three-floor buildings and were not in line but pretty close. To preserve the privacy between buildings, that are located quite close each other, there are walls that divided each home to the near ones. This area is not completed, and I promised myself to come back some months later to check if some of these dwellings would be used or not. After a few hours spent in the park I decided to go back to the city. Despite my expectation, no bar or restaurants were present here to buy something to eat or drink. So, I set out on the main road to reach the bus stop.*



*Along the road I decided to have a stop in front of a gate that caught my attention arriving there: it was the entrance to a big complex made of big villas in renaissance style, enclosed by massive decorated iron railings. In front of the door, there was a big fountain without water in the middle of a circular square from where departed several internal paths. On each side of the gate were built two 'in miniature' villas may be to host the house's guardsmen and guardroom. Also, in this settlement everything seemed abandoned and a big padlock closed the gate and there was a lot of wild vegetation inside. Peeking inside I tried to understand something about the architecture and the typology of the buildings, but it was pretty hard and the barking of a dog notified me the presence of a guardsman in one of the small villas next to the gate. Anyhow comparing my point of view and the satellite pictures offered by Baidoo I supposed there could be 12 villas inside and one of them really big, more similar to a palace rather than an individual home. I took some pictures and continued my trip to the bus stop.*

*I come back to Sifang more or less 10 months after my first visit. Nothing seemed to be changed, just the passing of time altered the maintenance status of many structures. The villas in the north were completed, but no one seemed to be living there, as well as in the big ones on the other side of the park. The lake, on the other hand, was almost completely emptied and had lost its charm.*



