Running Header – Transparent Hillsides

Transparent Hillsides

Defining a New Direction for Development in Chongqing

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Abstract

In developing a set of guidelines for development in Chongqing this paper has first contextualized the city in terms of Chinese urban design history. This urban history is argued to have been shaped by three distinct eras of authoritarian rule: Imperial rule, from the 8th century B.C. to the 19th century; Maoist rule, from 1949-1978; and post-Mao communist rule, from 1978 to the present. It is further argued that the corresponding central authority in each of these eras has relied on a strategy of directing urban development as a means to propagate ideology. This characterization is then linked to many of the current problems with the direction of development in Chongqing. The urban environment of Chongqing is then analyzed from various scales and perspectives through history. From this analysis, a set of design guidelines is produced. These guidelines address educational structures, theoretical principles, governmental and legal instruments, and environmental strategies.

Table of Contents

Abstract…….....2
Table of Contents…….....3
List of images……...5

Transparent Hillsides
Preface……11
Introduction……..……...15
Research Methods……..……17
Body
Part 1: Chinese urban history……..……...20
1.1 Spatial economy……..……20
1.2 Imperial Chinese urban form…….……28
1.3 Urban form under Mao…….……..31
1.3.1 History and policy…….……..31
1.3.2 Housing…….…… 32
1.3.3 Legacy of Mao's urban policies…….…… 34
1.4 Transition to the free market economy 1978-2008……35
1.4.1 Policy and structure…….……35
1.4.2 Mega forms…….36
1.4.3 Transformation of the urban environment……..39
1.4.4 Government and the development industry……41
1.4.5 The planning profession……..43
1.4.6 Public Agency…….44
1.4.7 Urban form as image……...46
1.4.8 Summary…….47
Part 2: Chongqing……..49
2.1 History……..49
2.1.1 Geography and ancient history……...49
2.1.2 Modern history……49
2.2 Architecture……..52
2.2.1 Historic structures……...52
2.2.1.1 Diao jiao lou structures……..52
2.2.1.2 Stone structures……..54
2.2.1.3 Traditional public space…….57
2.2.2 Maoist architecture……..61
2.2.2.1 Introduction……61
2.2.2.2 Character based on terrain…….61
2.2.2.3 Faux traditional……..66
2.2.3 New Development in Chongqing……68
2.2.3.1 Introduction……68
2.2.3.2 Relationship to the geography……...68
2.2.3.3 Infrastructure……..70
2.2.3.4 New housing developments……...74

2.2.3.5 Environmental issues……..……..76
2.2.3.6 Pedestrian environment……..…..……..78
2.2.3.7 Historic preservation…….……...84
2.2.3.8 Planning principles…….……..88
2.2.3.9 Structure of the property market…….……..88
2.2.3.10 Outlook……..……...92

Part 3: Danzishi…….….95
3.1 Introduction…….…….95
3.2 Built form……..……..…100
3.3 Residents…….……..107
Part 4: Case studies……..…111
4.1 Introduction……111
4.2 Housing projects……111
4.3 Community design: Hillside Terrace…….113
4.4 Urban design: The Kunming project……..…114
Part 5: Forming guidelines for the future development of Chongqing…117
5.1 Introduction……117
5.2 Education……...118
5.3 Theoretical principles……119
5.4 Governmental and legal instruments……....…123
5.5 Environmental principles……...…125
Part 6: Summary……..…127
Part 7: Self-criticism……131
References……132

List of Images

1. Map of China

2. People's square, Chongqing

3. Inner and outer frontier zones for the Han population pre-1949

4. Sichuan basin (Google Earth)

5. Sichuan basin (Google Earth)

6. Satellite image Chongqing (Google Earth)

7. Satellite image Chongqing (Google Earth)

8. Map showing special municipalities and autonomous regions, China

9. Historical map of Beijing, circa 18th century

10. Map, large urban conglomerations in China

11. Dalian-Shenyang corridor (Google Earth)

12. Pearl River Delta (Google Earth)

13. Traditional housing, Chongqing

14. Early 20th century brick building being demolished

15. Stone bridge partially converted to apartments

16. Bomb shelters converted to commercial enterprises

17. Pedestrian infrastructure

18. Pedestrian infrastructure

19. Stairways

20. Concrete steps

21. Pedestrian infrastructure

22. Pedestrian infrastructure

23. Concrete apartments

24. Concrete infrastructure

25. Concrete infrastructure

26. Mao era factories along the Yangtze

27. Demolition in progress

28. Dump trucks leveling landscape

29. Highways

30. Raised highway

31. Cloverleaf formation

32. Cloverleaf formation

33. New residential complex

34. New residential complex

35. Overly dense construction

36. Mini-Three Gorges Dam, Three Gorges Square, Chongqing

37. Public sculpture, Three Gorges Square, Chongqing

38. Landscape, Three Gorges Square, Chongqing

39. Landscape, Three Gorges Square, Chongqing

40. Three Gorges Museum, Chongqing

41. Public sculpture representing Diaojiaolou structures, Chongqing

42. Image of history, Chongqing

43. Image of history, Chongqing

44. Faux surface production, Chongqing

45. Faux surface production, Chongqing

46. The infamous ‘Nail House’, Chongqing

47. Danzishi, site at confluence of Jialing and Yangtze Rivers

48. Satellite image of Danzishi showing topography (Google Earth)

49. Satellite image of Danzishi (Google Earth)

50. Danzishi, view of Jeifangbei

51. Danzishi, view of new bridge construction

52. Danzishi, view of Jeifangbei

53. Danzishi, view of river walk along the Yangtze

54. French Marine Building

55. Diaojiaolou house, Danzishi

56. Brick house, Danzishi

57. Building detail, Danzishi

58. Building detail, Danzishi

59. Condemned buildings, Danzishi

60. Public space, Danzishi

61. Public space, Danzishi

This other space we are thinking about, a space of the 'city itself' would be a space of evolution and involution, of history and of generation, rather than an arrangement; it would be an organization rather than a composition. It would be an epigenetic space of the urban as a form and as a 'body'.

-Stephen Read, *Towards an Urban Space.* 2006 (p. 13-14)

To lead people, walk behind them.

-Lao Tzu, *The Tao Te Ching*. c. 600 B.C.



Image 1: Map of China showing Chongqing Municipality and Chongqing City



Image: People's Square, Chongqing

Preface

The decision to focus my thesis on Chongqing arose during my time as an exchange student at Chongqing University in 2007. Together with a group of architecture students from Nantes University and Versailles University, as well as students from my host school, we were assigned the task of redesigning an area that is part of this paper's focus. In groups of ten, we were challenged to create a workable master plan for the community of Danzishi in two weeks time. Despite the brevity of the project, it was perhaps the most productive and educational design activity of my student life. This was due to a number of factors, including the electricity generated by the cross-cultural group work, my own long-standing interest in Chinese culture, and the various far-reaching, political, social, and environmental issues that seemed to converge on this piece of land in downtown Chonqing.

The Chinese and their country represent one of the dominant contributors to human history and achievement. In so many ways, Chinese culture stands as a measure by which the Western world can be assessed and understood. After millennia of waning influence and a century of dramatic transformation, China has emerged once again as an undisputed world power. The global environment, economy, and geo-spatial power balance, are all increasingly influenced by the movements of China. In virtually all Western universities, Chinese exchange students now form a significant portion of the student populace. In the foreseeable future, China will be an increasing influence in all fields of human endeavor. This of course includes environmental design. Due to the recent transition to a market economy and the ensuing mass-migration of people to cities like Chongqing, China's

urban fabric is undergoing change at a rate and scope that has never been seen on Earth. It is this unprecedented transformation of one of the foundational human cultures that lies behind my interest in this project.

Urban form can be understood as a means through which a culture can be interpreted—as a kind of converse shadow that can be read as a physical text. Good environmental design suits the lives of its users; it is therefore like a clear and representative map. Bad environmental design fails to meet the needs of its user; it is therefore like a factual inaccuracy that will likely be soon corrected. In essence, the survival and replication of urban form is indicative of its value over time. This is only the case though, when a type of urban form is altered or discarded from within a culture. When changes come from outside a culture—being imposed rather than adopted—the *use* of urban form, can no longer be understood as simply suiting the lives of its immediate users. One must expand the understanding of *use* to include cultural subjugation. In terms of an invading and colonizing foreign power, this process is relatively easy to identify. Within the sphere of China, the case of Tibet is exemplary. Most often though, this relationship between a local culture and a national culture cannot be so easily defined. This applies to the case of Chongqing. For example, how is a local population defined as being distinct? To what degree do they belong to the culture of the local, and to the culture of the national? To what degree is the national being imposed and to what degree is it being adopted? This discussion enters the field of anthropology and is far too broad to be tackled here. The point of raising these questions is to demonstrate that diversity in urban form is linked to

cultural diversity, and that a culture most be understood as existing on different scales of reference.

The anthropologist Wade Davis, has made the argument that cultural diversity is a parallel of biodiversity. He argues that the extinction of a culture is equally detrimental to life on Earth as the extinction of a species (Davis 2008). The problem with this theory is that individual cultures cannot be defined as distinct in the same manner as individual species. Nonetheless, whether this theory is based in fact or is merely a poetic simile, it presents a compelling argument for the active preservation of cultural diversity. To consider built form as an integral representation of a culture, the argument should be applied towards the active preservation of built form as well.

On the hillside of Danzishi, there is a very distinct and valuable species of urban form. It has grown over time, like a shell on the backs of the people who live there. It is a deep and rich cultural map. Unfortunately, much about this environment as it now stands, does not fit with the rapid transformations that have recently taken place in Chongqing and the rest of urban China. In the next few years, this historic community will almost certainly be destroyed and replaced by an amalgam of the countless high-rise, high-density *instant communities* that now characterize the city. The inhabitants will be relocated and replaced by an imported group of Chongqing's growing middle-class. A much larger number of people will be efficiently housed, and the revenue generated from the development will more closely represent the economic value of the land. But much will be lost in this transformation. Danzishi is not only an historical record, it is also a well-

functioning pedestrian-based community. Much can be learned from this environment and applied towards contemporary urban design.

The project's title, *Transparent Hillsides*, refers to the potential of urban form to not only facilitate the behavioral patterns of its users, but also to act as a text from which the cultural and environmental history of a place can be read and understood. If an urban environment is allowed to change incrementally—from the bottom up—its visible surface can be *seen through*, to reveal the intertwined fibers of culture, time and place. In this sense, urban design should strive to be transparent.

Introduction

The structure of this thesis reflects the foreign relationship of the author to its subject. When analyzing a foreign environment, one becomes more aware of the various levels of cultural and historical influence that have shaped it. In an attempt to gain an understanding of a place, the broader context of the culture at large must first be engaged. Only then can the deeper layers of historical and spatial significance slowly be uncovered and juxtaposed. My attempt to understand a community in Chongqing has led me to examine the broader history of urban China. This process has led me to understand both how it has been shaped by this history and also how it stands apart from it.

The political history of China has in a large part been reflected in the physical form of its cities. This paper argues that three distinct eras of authoritarian rule have had a dominant effect on the historical trends and the current state of urban China. These three eras are represented as imperial rule, extending loosely from the 8th century BC to the 19th century; Maoist rule, from 1949-1978; and post-Mao communist rule, from 1978 to the present. The paper further argues that the particular urban environments formed under these political eras, not only reflect the ideology of the central authority, but also actively perpetuated it as a spatial colonizing mechanism. This has led to an urban design history that has prioritized a unified national voice over local variation. Taking the standpoint that environmental design should first and foremost reflect the particularities of place, this long-standing tendency to prioritize the national versus the local in environmental design in China, is argued to have resulted in a predominance of homogenous, poorly designed urban environments.

The hillside of Danzishi in Chongqing has largely escaped the spatially homogenizing effects of Chinese urban design. We can see a local way of life expressed in an urban environment that has slowly evolved from the bottom up over the last hundred years. In an attempt to explain the richness and enduring value of this environment, the specificity of its *place* will be examined at various scales. The spatial identity of Danzishi will be examined in terms of the national framework of China, the broader central region of China, the urban relationship to Chongqing at large, and finally its significance as an independent community. This broad examination of spatial identity will be used to develop a set of design guidelines for Chongqing that would be applicable to a community such as Danzishi.

Reasearch Methods

The more time spent observing and moving through a site, the more insight one will glean from it. Ideally a designer would live on a given site for an extended period of time before deigning to redesign it. This is even truer when considering cross-cultural environmental design. The foreign designer must first educate herself on the multifarious aspects of a given culture before attempting an analysis of a given site. The degree to which this can be adequately performed is obviously impossible to determine with any certainty. But no matter the intensity and length of the study, the foreigner will emerge with a level of site-specific knowledge that pales in comparison to her local counterpart. On the other hand the foreign designer brings with him a fresh set of perspectives, allowing him to side-step conventions and *a priori* think outside of the proverbial local box. For a design to be successful, the benefits of a fresh approach and alternative experience must outweigh the necessary limits to an understanding of the local.

It should also be noted that Chinese academics are subject to the phenomenon of 'soft-censorship'. Being a citizen of a regime that restricts freedom of speech—particularly in terms of criticism directed at the government—leads to the avoidance of topics that may be perceived as off-limits. Therefore in most Chinese studies of urban issues, the state's role is taken for granted and is not open for discussion (Tang 2000, p.351-352). The foreigner, when addressing issues pertaining to China, is largely free of this conscious or subconscious process of self-censorship.

For the past ten years I have spent the majority of my time living, working, and studying in China. This period of cultural immersion has left me with an evolving fascination, understanding, and personal engagement with Chinese culture. But as with the study of any complex subject, as each layer of knowledge is peeled back, many more are discovered to lie beneath.

From March 1st to July 15th, 2007, I studied as an exchange student in the department of architecture at Chongqing University. This gave me the opportunity to observe, experience, and document the culture and urban environment of Chongqing. The knowledge that I gained from exploring the city, attending classes, participating in the economy, and forming relationships, comprise the most essential portion of research for this project. During this time I participated in a group design of Danzishi with a contingent of students from Versailles University and Nantes University, along with students from Chongqing University. This is where I was first introduced to the site and performed the first stage of direct site analysis. This analysis was necessarily limited as the entire design project was limited to two weeks. Despite the limited time, this exercise produced many interesting strategies and solutions from the ten participating groups. My own group's design forms the foundation for the design guidelines I have compiled herein.

In June and July of 2008, I returned to Chongqing to perform a second stage of site-analysis directed at the production of this thesis. My original intention had been to perform a structured survey/interview project of the residents, as any direct input from

the residents had been pointedly absent in the first stage of analysis. Upon engaging with the residents it immediately became apparent that a formal interview project with consent forms and recording devices was wholly inappropriate to my goal of gaining the trust of the local people. China is an insular and homogenous culture with an ingrained distrust of foreigners. The ruling Chinese Communist Party (CCP) has a history of repression of its citizens and maintains restrictions on free speech. To ask a resident to sign their name to statements that may be construed as critical to the party would be reckless and counter-productive to the goal of honest discourse. Thus I opted instead for a program of informal discussion with the residents. While this program failed to produce concrete data, it gave me much insight into the demographic, psychology, and opinions of the residents.

During my two stages of on-site analysis I compiled a series of photographs that document the character and function of the various public spaces in Danzishi as well as Chongqing at large. These photographs will be used in tandem with the text to give a sense of the general physical character of the community as a whole.

The literature review portion of my research is wide-ranging. It covers subjects ranging from Chinese historic urban form, to the principles of sustainable design. I have attempted to address the various fields of inquiry and background information that are essential to the engagement with a foreign site and the development of locally based urban design guidelines.

Part 1: Chinese urban history

1.1 Spatial economy

The political history of China has been a long struggle to maintain control over a large and geographically scattered population. This stands in contrast to European history, where the quest for outward expansion and influence are a defining trait. With China, the enormity of its landmass, in addition to the specific character of its geography, have posed an on-going challenge to the effective linking of its regions.

As the locus of Chinese power has been predominantly in the North-East, the Southern, Central and Western regions have been more prone to threats from foreign invasion and internal rebellion. These areas have fallen in and out of central control at various times throughout history. Thus, efficiently linking these regions has been an ongoing political and military priority. On top of this, the scarcity of arable land, water, and other resources, has necessitated a constant preoccupation with the economic inter-relationship between China's far-ranging regions.

Into the 20th century, the Han population was almost exclusively located in the eastern agricultural heartland of China (Gaubatz 1996, p.24). The area extending from Yunnan in the south through to Gansu, Qinghai, Sichuan and Inner Mongolia in the north, acted as what Gaubatz terms an 'inner frontier' (p.24). These areas remained ethnically distinct from the Han dominated eastern hinterland into the 20th century (p.24). Up until the 1949 revolution, the Han people occupied only one third of China's landmass (p.2). Since

coming to power, the CCP has been keen to modernize the central and Western areas of China. The diaspora of the Han people through the central and western areas of China has largely occurred in the last 50 years. In the past 30 years more than 30% of capital investment by the national government has been directed at these area (p.24). These investments have been directed predominantly at natural resource exploitation and mass transportation networks. These transportation projects have aided the logistical movement of China's spatial economy, facilitating the movement of raw materials and manufactured goods. They also serve the military imperative of facilitating the rapid movement of large numbers of troops. It has also been argued that these projects are part of a concerted plan to water down the ethnic populations of outlying areas in order to ensure a dominance of Han culture throughout the country and prevent potential secession attempts (Gray 2009) (Bhattacharji, 2009).

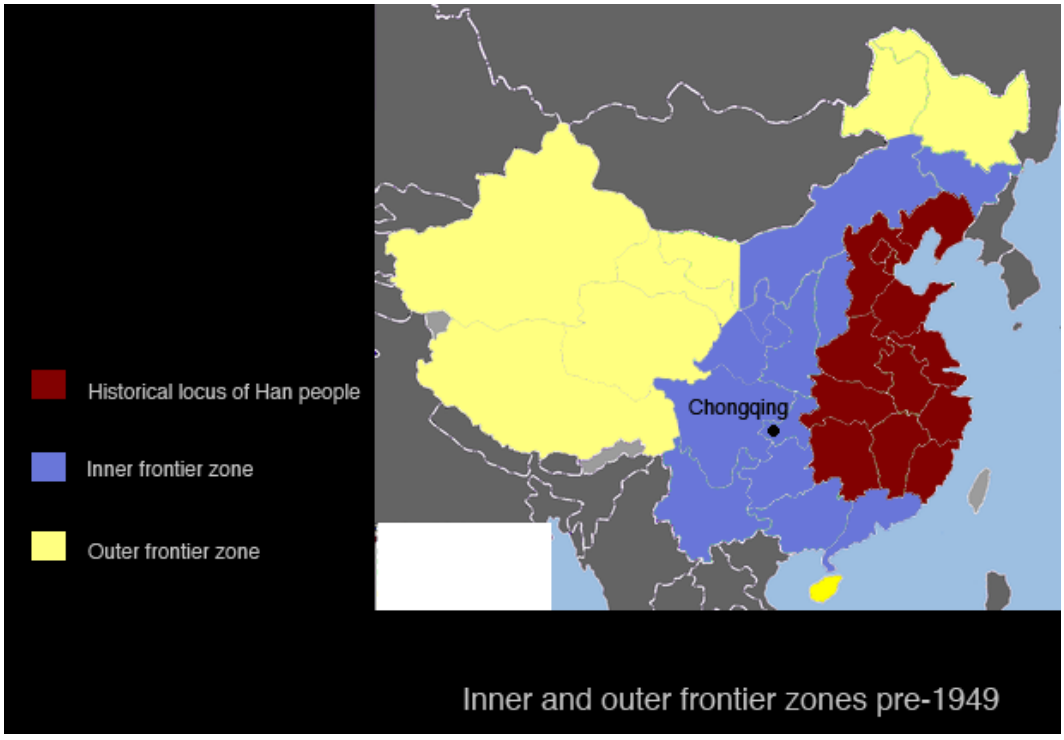


Image 3: pre-1949 frontier zones for the Han population

Previous to the establishment of the People's Republic of China, Chongqing had served as the interim capital of Chang Kai Shek's Nationalist government after its long retreat from Nanjing. Perhaps Mao, seeing the effectiveness of this mountainous location in terms of air and land defence, contributed to the establishment of the *Third-Line Plan*. The Third-Line Plan was a blueprint for industrial expansion into central China, motivated primarily by a fear of nuclear attack and a U.S. led sea invasion. The plan sought to relocate the country's industrial base from the coastal to the central regions. This led to the creation of 29,000 Third-line industries during the sixties and seventies, including 600 of the country's 1500 largest industrial plants (Linge and Wang, 1997, p. 27). These plants were scattered throughout the mountains of Sichuan, Qinghai, and Gansu. The plan fell in line with the logic of self-reliance and the socialist program to modernize the country as a whole. Many defense related industries, including nuclear weapons production and storage, still remain in the surrounding area (Broad, 2008).

Ultimately, the Third-Line plan failed due to remoteness, lack of an adequate power supply, and the lack of an adequate nation-wide transportation network. The construction of the Three Gorges dam and the recent construction of more than 53,000 km of toll expressway throughout the country, can be seen as a direct response to the failures of the Third-Line plan. Immediately following the third-line period, Chongqing became the regional focus of the national government, as many industries were relocated in and around the city to improve operational efficiencies. From 1965-1975 the population of Chongqing increased by 2.2 million (Linge and Wang, 1997 p. 27).

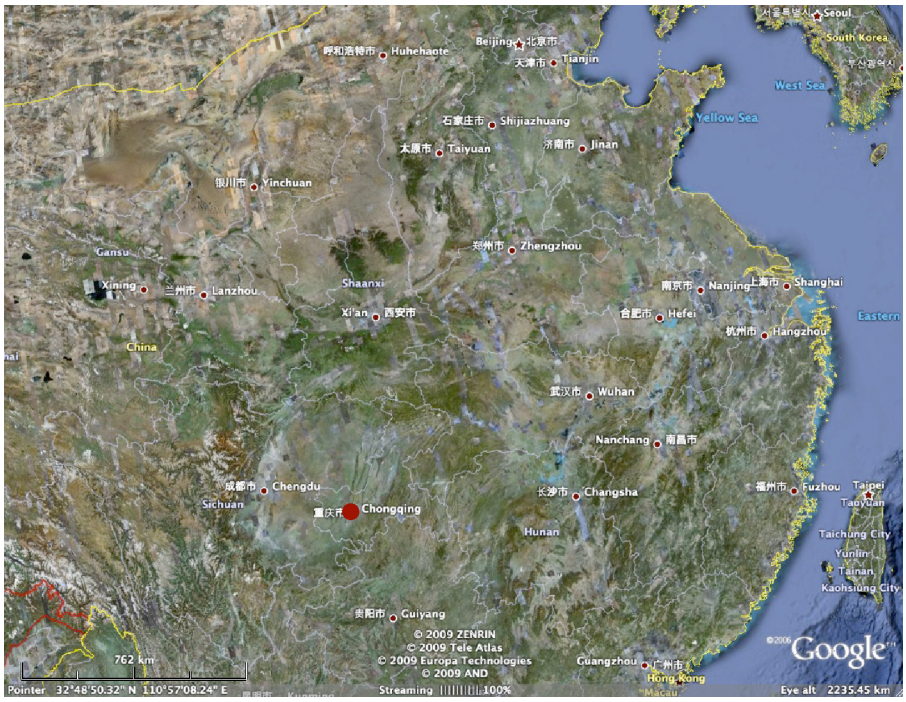


Image 4: Map of Western China showing Ch ongqing and the Sichuan Basin

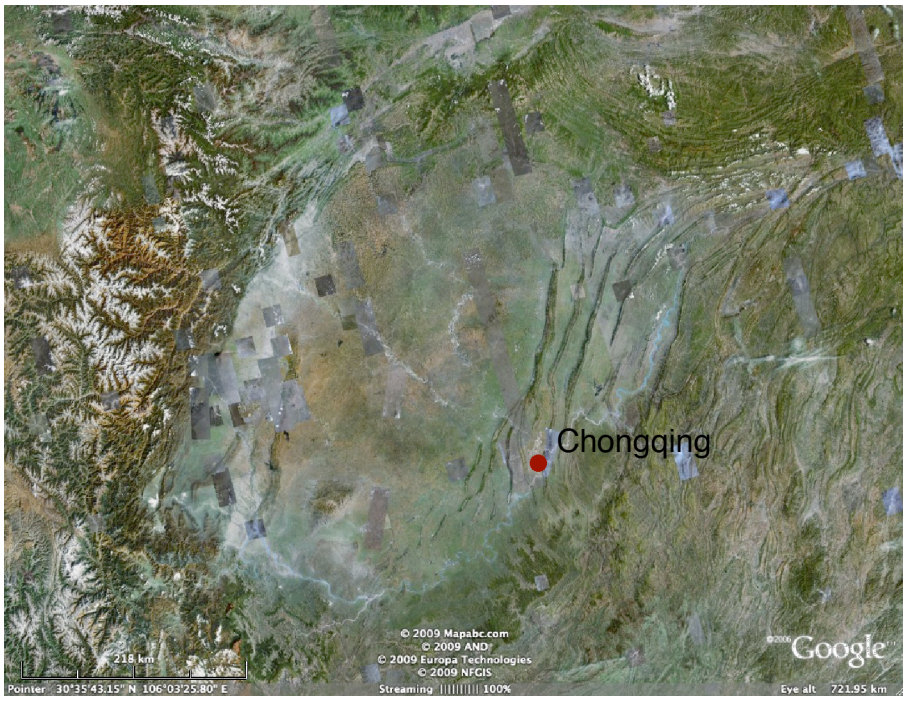


Image 5: Geography of the Sichuan Basin



Image 6: Satellite image showing greater urban area of Chongaing



Image 7: Satellite image showing central Chongqing

As part of the transition to a market economy, the 7th five year plan (1986-1990) updated the specific role of the regions. The coastal area was to focus on high-technology export oriented industries attractive to foreign investment. The Western region was to focus on mining and animal production. The central region was marked to produce raw and partly processed materials, low technology manufacturing, and food-stuffs (p. 27). This is the era when the industrial and economic character of Chongqing became fully established.

In 1996, Chongqing was enlarged and upgraded to the status of a municipality reporting directly to the central government. It became the fourth city with this designation joining the ranks of Beijing, Shanghai, and Tianjin. The significance of this new administrative title cannot be over-emphasized. In a single stroke, Chongqing was wrested from the long-standing authority of the Sichuan provincial government located in Chengdu. It was given new borders that encompassed a population of 30 million and a landmass the size of France. It was also designated as being the primary headquarters for economic growth in central China. This instantly redefined the economic and political trajectory of the city.

The most immediate and tangible result of this new classification was an influx of billions of yuan earmarked for infrastructure and development projects. The majority of these funds came from the State-Development Bank with a portion coming from soft loans from foreign financial institutions such as the World Bank (p. 27) (World Bank 2000). These projects include a complete revamping of the city's waste and sewage treatment, a new LRT system, a massive rollout of new highways, and a dizzying wave of

rebuilding that has led to the whole-scale demolition and reconstruction of a large portion of the city's built form.

In the year 2000, Chongqing's new municipality status was bolstered by the establishment of the 'Go West' program (Gluckman 2006). The program—a combination of government sponsored marketing and investment incentives— can be seen as the latest addition to a long series of measures aimed at developing central China. While the logic behind these various measures has evolved from being primarily military to being primarily economic, the goal has nonetheless remained consistent. The relative success or failure of this agenda is still in question, but regardless, the growth and evolution of Chongqing since the 1950s has been the direct result of these collective government initiatives.



Image 8: Map of China Showing Municipalities and Autonomous Areas

1.2 Imperial Chinese urban form

To engage with urban design in the Chinese context, one must have at least a tertiary understanding of the history of Chinese urban form and how this history is representative of deeply imbedded cultural traditions. The history of Chinese cities is unique compared to that of European cities. European cities arose, for the most part, organically, with independently formed systems of organization and control. Kropotkin posits that the independent political and economic systems that arose in European cities, were an essential foundation for western political and economic organization (Kropotkin 1902). Chinese cities arose, for the most part, from imperial edict. These cities were planned, sited and organized in terms of their direct use and subordination to the central power of the emperor (Friedmann 2005. p.ix).

In *Beyond the Great Wall*, Piper Rae Gaubatz outlines the historical development of this uniquely Chinese system of urban design. Gaubatz points out how this system, developed between the 12th and 8th centuries B.C. and strictly adhered to into the 19th century, has produced a remarkable consistency in Chinese urban form (Gaubatz 1996. p.128). He summarizes the unifying features of this system as being the ceremonial center, the city wall, the organization of space on the basis of status, and the use of cosmology/geomancy for city siting and orientation (p.128). These geomantic principles, collectively know as *Feng shui*, advise on how to order space in a manner that positively influences the flow of energy. *Feng shui* emphasizes abstract and universal concepts of space such as geometry and orientation. Regardless of the actual efficacy or value of *feng shui,* its emphasis of the universal over the local has served as an environmentally homogenizing

agent. The implications of this are not simply spatially similar cities, but also the underpinning of a political ideology that persists through time and space. The central supreme authority of the emperor is indelibly imprinted in the very essence of Chinese cities. Focusing too heavily on the political role of traditional Chinese urban form, risks washing over its elegance, practicality, and ingenuity. The point is simply to demonstrate how urban design in China has been used as a spatial colonizing tool.

Recognizing the underlying political voice in China's historic cities sheds light on Mao's antagonistic stance towards traditional Chinese urban design. Mao ordered the destruction of the historic city walls, not only in the capital of Beijing, but in all of China's cities (Barme 2007. p.5). This declaration of war on a seemingly benign species of urban artifact at first appears as the senseless act of a megalomaniac—the willful sacrifice of thousands of years of cultural history in exchange for a symbolic act of his regime's power. But to consider the ideological role of traditional Chinese urban design, one can see Mao's policies as being in many ways *consistent* with those of imperial China. Mao proscribed the wholesale rebuilding of China's cities in a form that would reflect the radical ideology of the Communist Party. By seeking to construct a homogenized national urban form that would emphasize the universal over the local, Mao perpetuated the long-standing use of urban form in China as a tool of spatial colonization.

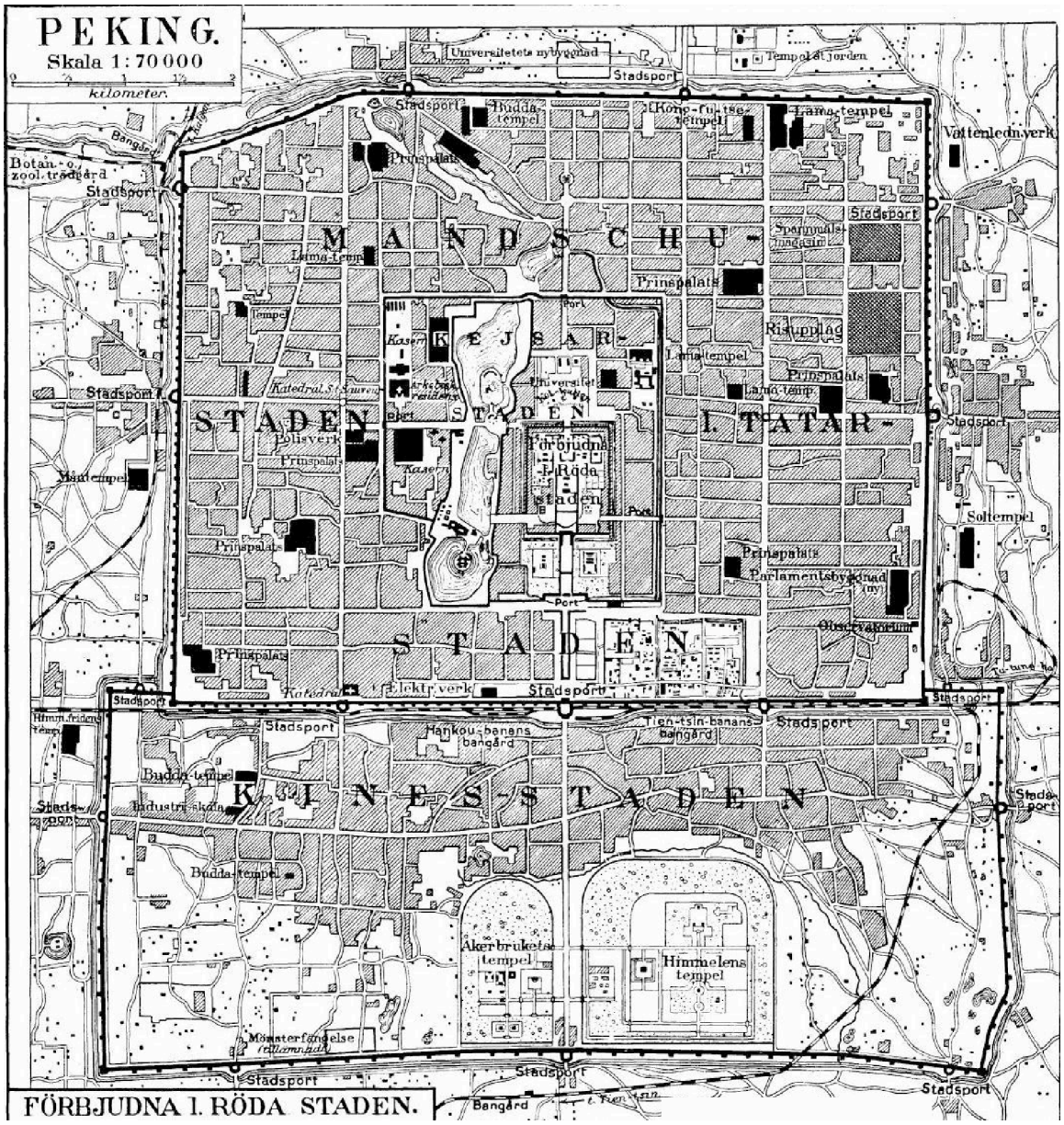


Image 9: Map of Old Beijing: One can clearly see the unifying features of traditional Chinese urban design: The ceremonial center, the city walls, the organization of space according to status, and the North South orientation according to feng shui.

1.3 Urban form under Mao

1.3.1 History and policy

Following the establishment of the People's Republic of China in 1949, Mao was faced with the task of rebuilding a nation in the socialist image. Using the example of the Soviet Union, Mao developed the policy of 'forced march' industrialization. Urban policy was to be tailored to fit this plan. Cities were to be transformed from centers of consumption to centers of production (Friedmann 2005, p. 11) Thus, in the coming years, urban form and urban life were to be dramatically reconceived and reconstructed.

Based on the rationale of keeping infrastructure costs to a minimum. The urban policies of Maoist China focused on restricting the growth of cities. The urbanization process was restrained through a number of initiatives. In 1960, a household registration system, known as the *hukou* system, effectively halted urban migration (White 2008, p. 120). Through this system, a person's place of residence was effectively tied to their place of birth. As well, the system designated a location as being either agricultural or non-agricultural. Non-agricultural *hukou* holders were entitled to subsidized food, education and housing, while agricultural *kuhou* holders were considered self-sufficient and not in need of such support. This created a two-tier society of privileged urban residents and second-class rural residents (Friedmann 2005, p. 11-12). This program, while relaxed to a degree, is still in effect to this day.

Urban populations were kept in check through a series of other measures. An emphasis was placed on establishing new industries in non-urban areas. These communal township

enterprises served to boost the rural economy while avoiding the costs of urbanization. By 1978 about 28 percent of China's total industrial labour force was employed in these township enterprises (p. 12). The uniquely regional character of many of China's cities today can be traced to the broad interconnected spatial networks created by these enterprises. Another government policy orchestrated to reduce the urban population was the one-child-per-family policy. This policy was originally instituted in urban areas before being applied to rural areas as well. Finally, beginning in 1957 and continuing through the decade of the Cultural Revolution, more than 50 million urbanites were forcibly relocated to rural areas (p. 13). This included the majority of urban intellectuals who were sent to teach the rudiments of reading and writing to peasant while in turn learning from them about the harsh reality of rural life. The devastating affect these policies had on the cities of China can never be adequately measured.

1.3.2 Housing

As part of the socialist planned economy, housing construction and management became the sole responsibility of the central government. Following the Marxist concept of production, housing construction was considered as *the production of the means of subsistence*, or in other words an essentially non-productive element (Zhang and Wang, 2001). Thus, the scale and cost of urban housing construction during this period were kept to an absolute minimum.

To ease the urban housing shortage of the early fifties, numerous simple and cheap housing complexes were quickly constructed. These complexes represent the first wave

of starkly functionalist, mass-produced architecture that was to dominate urban residential construction through to the 1980s.

Architecture in Maoist China was not practised as we now understand it. In terms of general housing, there was essentially no attempt to produce variety or individuality at any scale. In fact, the opposite can be said to be true. With both an ideological and economic rationale, the goal during this period was to produce standardized designs that could be applied efficiently throughout the country (p.124-125). As the central government acted as the nation's sole real-estate developer, universal designs and standardized construction allowed for the estimation of the total required land-mass and total cost for a theoretically limitless number of structures. This architecture would also carry with it the socialist principles of thrift, equality, and a unified national identity (p. 127).

Thus residential design was a very restricted practice during this period. Beginning with a slavish copying of Soviet housing models, and slowly evolving into a more culturally specific design language, residential architecture in Maoist China was stark, functionalist, and monotonous to the extreme. Design improvements were mostly limited to efficient floor-planning, effective use of orientation, and the integration of more cost-effective construction technology. Building types ranged from single and multi-storey row housing to massive apartment blocks that resembled lower quality versions of the American inner-city housing projects of the sixties. Construction was generally shoddy and maintenance was poor. Living conditions were anything but ideal. Chan notes that in a survey of 192 cities between 1950 and 1978, the per capita floor area declined by 20 percent from

4.5m^2 to 3.6m^2 (Chan 1994, p. 73). Regional architectural variation was for the most part limited to hot climate models versus cold climate models.

Neighbourhood planning took on a similar character in this period. Emphasis was placed on maximizing density and efficiently locating residences in proximity to infrastructure and places of work. A new form of urban unit emerged from these experiments known as the *danwei*. The *danwei* or work unit, is an isolated, self-sufficient combination of work place and residence. Workers were not only housed together in the same complex in which they worked, meals were eaten communally, bathrooms were shared, and even recreation was primarily performed as a communal activity (Zhang and Wang 2001, p.117). The *danwei* in many ways represents the maximum architectural expression of Maoist ideals.

1.3.3 Legacy of Mao's urban policies

Industrialization and mass-production allowed Mao to stamp his particular ideology on the collective Chinese urban environment much more effectively than previous regimes. Unfortunately, this ideology took the form of universally drab, monotonous and low quality environments. Architecture had become stripped of anything resembling art and reduced to an essentially technical practice. One sees a repression of cultural history, environmental character, regional distinction, group distinction, and individual expression; in other words, all aspects of personal identity that compete with the manufactured belief system of the party. These environments act to conceal the diverse

and multifaceted reality of place and identity. By any measure, save for pure mechanistic functionality, they are poor environments. They are the physical evidence of a broad disregard for human and environmental diversity.

1.4 Transition to a free market economy 1978-2008

1.4.1 Policy and structure

With Mao's death in 1976 came a slow process of unraveling the structures of the command economy in China. In 1978 at the Third Plenary Session of the Eleventh Party Central Committee, a new policy of "emancipating the mind and seeking truth from facts" shifted the party focus from class struggle to socialist modernization (Lu and Shao, 2006, p. 189). This enigmatic slogan was the first indication of a total reversal of economic policy for the Chinese Communist Party (CCP). Many of the elements of the command economy constructed by Mao, were to be gradually dismantled and replaced by capitalist free market instruments. The introduction of a property market was central to this plan. It was reasoned that the investment and development to be garnered from an open property market would be of such magnitude that it would stimulate dramatic long-term growth for China's economy as a whole. Several policies followed in the eighties and early nineties that led to the gradual definition and implementation of a commercialized real-estate market in China. This period ushered in private home ownership, the formation of a development industry, and the institution of a framework for foreign investment. We also see an awakening and unfettering of the practices of

architecture and urban design. The process of reshaping China's urban environment to reflect the revised ideology of the ruling regime had once more begun anew.

1.4.2 Mega forms

This transition to a capitalist property market has caused enormous change to the physical and social fabric of urban China. Mega-cities have taken on new regional forms that extend across hundreds of kilometers linking multiple large urban centers. The most notable example of this new species of urban formation is the Pearl River Delta. Other examples include the Yangtze basin, the Dalian Shenyang corridor, and the greater municipal area of Chongqing.

These regional urban formations are in many ways the unintended results of Mao's industrial policy. As mentioned earlier, Mao's industrial policy focused on establishing rural enterprise in often remote and inefficient locations. This program was not based on spatial efficiency, but rather on a combination of military, political, and economic reasoning. A scattering of small population centers were established that would have organically arisen in tighter clusters. These spatial inefficiencies have recently been reduced by the massive nation-wide network of highways, constructed over the last decade. Small centers of production that had at first proved inefficiently sited, later became ideally located to benefit from increased interaction between larger centers. This new Inter-related efficiency stimulates the growth of all the related centers and over-lapping eventually occurs (Heikkila 2007, p.69). These areas do not fit within the traditional concept of *urban* that defines it as dialectically opposed to *rural*. They

contain elements of both urban and rural, in spatial relationships that demand a new terminology and theoretical perspective to be better understood.

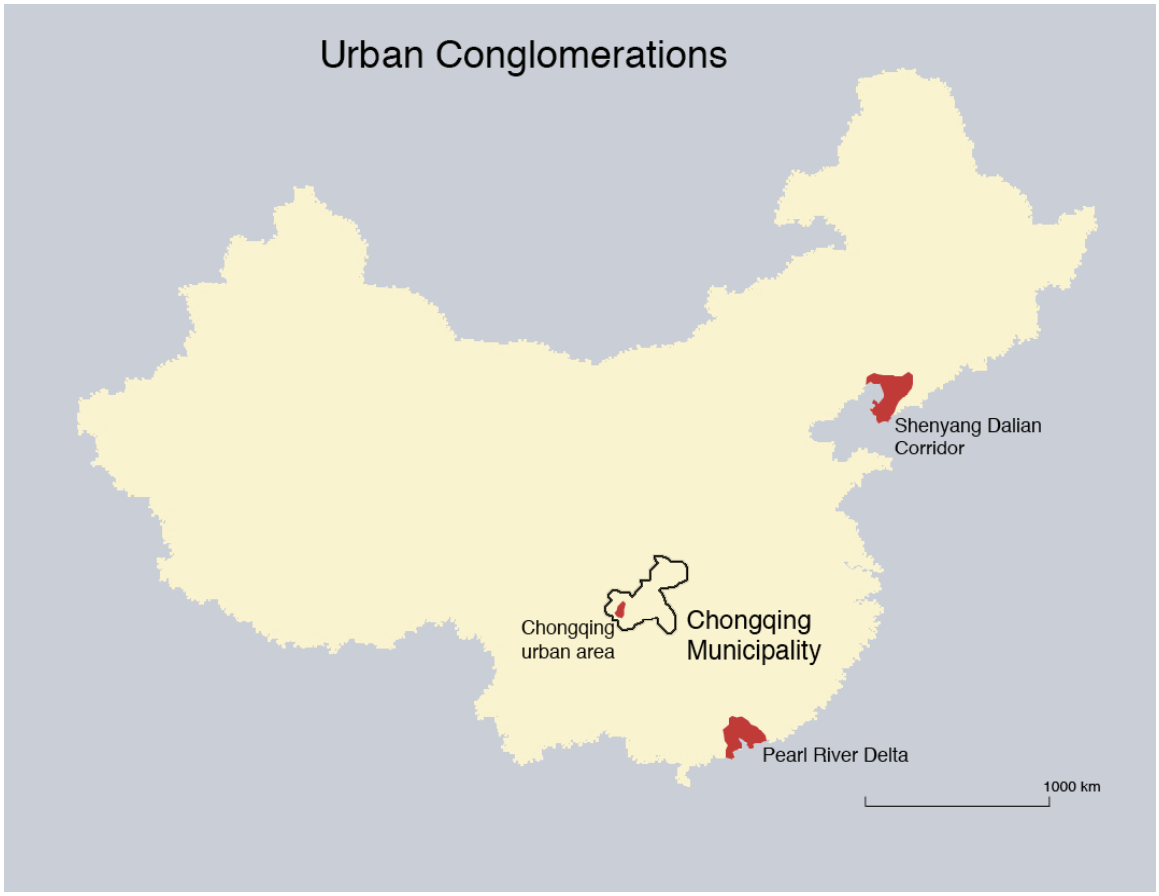


Image 10: Map showing Urban Conglomerations or Megaforms



Image 11: The Dalian Shenyang Corridor



Image 12: The Pearl River Delta

1.4.3 Transformation of the urban environment

The assignation of monetary value to individual tracts of land has produced a dramatic change in the urban landscape of China. Mao's program of transforming cities to centers of production has left a legacy of urban factories that fail to reflect the new value of their locations. Zhou and Logan note, "survey data shows that in Beijing's central section the profit per square metre of space for industry is only one tenth—in some cases even one fiftieth—as high as that for business" (Zhou & Logan 2008). This has led to a nation-wide relocation of industrial enterprises out of the central areas of cities. The same economic measurement has led to the wholesale destruction of many of China's historic urban districts. This physical destruction of built form has not only raised concerns for China's architectural heritage, it has also triggered wide-ranging social upheaval with the forced relocation of a large portion of China's urban population.

The character of the post-Mao urban environment focuses on multiple center development. These centers are referred to as central business districts (CBD). Related to this multi-centered approach, is an emphasis on zoning. Industrial buildings are being relocated out of the city centers and clustered together in science parks and business development areas. Large-scale show projects such as public squares, shopping districts, and themed leisure districts are used as a place making nucleus for each of the various CBDs. In terms of residential projects, multi-tower, gated, high-rise development is the norm, both in city centers and in suburban areas. In keeping with the multi-centered approach, vehicular transportation has been emphasized and pedestrian streets are

increasingly sequestered to themed commercial or leisure districts. There has also been a huge increase in tree planting and green space.

This new urban environment has, on the whole, improved the lives of the majority of people. Cities have been modernized, becoming more convenient, efficient, clean, and livable. Most residents also see this new environment as a proud symbol of the economic growth and renewed greatness of their country. Unfortunately, the speed with which this new environment has emerged, and the scale of new development, has left much lacking in the post-Mao urban environment.

These problems are as follows:

- A lack of detailed survey and analysis of existing environments
- The corresponding large-scale destruction of established communities and historically valuable environments
- A lack of detailed development guidelines
- A lack of enforcement of existing guidelines
- A focus on large-scale show projects
- A corresponding lack of renewal projects
- Homogenous imported solutions that fail to reflect existing environments and locally established behavior patterns
- An emphasis on vehicular oriented environments and a corresponding lack of pedestrian friendly environments

- A lack of input and agency for residents
- Cheap construction and faux surface design
- Urban sprawl and the destruction of the natural environment

To understand the causes of these problems it is necessary to identify the various agents involved in the urban development process. Examining the relationships and roles of these various agents, leads to an understanding of the process by which the urban environment is shaped. The following section will examine the role of the government, the development industry, the planning profession, and the public in the urban development process.

1.4.4 Government and the development industry

China's real estate market has gone through several contortions and continuous adjustment. As opposed to Western market economies, all land continues to be the sole property of the government. The free market development process occurs through the purchase of land use rights by individuals or development companies. In some cases, land use rights are auctioned and in some cases the price is set by local governments. Local governments are keen to speed development in order to obtain revenue from the sale of land leases and the increased level of tax revenue.

Often the development companies have varying degrees of connection to local governments. In some cases former State Owned Enterprises (SOEs) have been

transformed into development companies. In other cases, current SOEs take on the role of development companies. At times, the government itself partners with developers and participates in the construction process. In other cases development companies are contracted to provide extensive public infrastructure such as highways. It is also a common practice for government officials to own, or have financial ties to, development companies. These murky relationships and shifting roles between government and the development industry present obvious conflicts of interest and have fostered an environment endemic with corruption. This has negatively impacted all aspects of urban development in China. Personal financial gain runs counter to impartial decision making. Corruption sways the awarding of land leases, the approval of designs, and the passing of safety inspections. Most of the problems with China's urban environment are in some way related to this systematic corruption.

The hierarchy of the CCP and the process of advancement through its ranks are also responsible for many of the problems with the contemporary urban environment in China. Evaluation and advancement in the CCP is largely based on demonstrating concrete evidence of economic development (Logan 2008. p.151). To achieve figures of development, large-scale projects are approved and constructed as quickly as possible. Detailed site analysis, design quality, construction quality, and associated infrastructure, all fall by the wayside in this push for speed and scale (p.151). Another symptom of this hierarchical structure is the emphasis on showpiece projects. Urban development and beautification is often isolated to specific CBD areas and their main vehicular links. Thus an official can easily present the visual evidence of development to visiting superiors.

One finds archipelagos of grand developments such as urban squares and shopping districts connected by heavily landscaped boulevards and freeways. It is much easier to demonstrate visual evidence of progress through these types of showpiece projects, than by installing modern plumbing and sewage lines in an older residential district, for example.

1.4.5 The planning profession

Leading up to and during the Cultural Revolution, beginning in 1966, the planning profession was viewed as harmful to the proletarian philosophy of Maoism (Zhang 2007, p.69). "Intellectuals have little knowledge; laboring people are much wiser," asserted Mao. Planning professionals were sent to the countryside in droves to be 'reeducated'. From 1959 to 1976 Mao's anti-urban policies essentially eradicated the planning industry and almost no planning activities took place during this time (p.70). The profession has been slow to recover. As of 2007, about 10 percent of the people holding planning positions received no formal planning education (p.66). In many cases these people hold high positions in planning bureaus and received their appointments due to political loyalty rather than planning qualifications (p.66). Considering the damage inflicted on the planning profession by Mao, it is unsurprising that current planning practices leave much to be desired.

Urban planning is meant to work for the public interest, balancing the selfish decisions of individuals against the common good. In China the function of the profession is less clear. The CCP's current policies on urban development are decidedly pro-growth. For

government officials to advance their careers they must produce evidence of large-scale development as quickly as possible. Planners are expected to expedite and implement the decisions of officials, not challenge them. Thus with the pace and scale of recent development, much planning work is of low quality, development plans are often summarily approved, and planning recommendations are often ignored (p.71). Planning officials have also been implicated in several high profile corruption cases.

1.4.6 Public Agency

In the West, legally protected land ownership necessitates a greater involvement by the public in the urban development process. Due to this legal protection, large-scale projects in existing urban areas, are much more difficult to realize. The urban environment develops more slowly as a patchwork of structures representing various ages and styles. The urban environment, *as a whole*, is more the product of evolution than the product of design. Thus, it reveals the history and culture of a place. This approaches the idea of revealing the *genius loci.* Current planning practices in the West have also focused on increasing public participation and agency in the development process. Urban development occurs through a process of discussion and debate between developers, planners and the public.

In China the role of the individual in the urban development process is much more restricted. There were no regulations in the country requiring even public notification of development projects until 1999 (Gao 2007, p.32). While regulations have since been put

into place requiring notification and town hall discussions of development projects, public participation is still in most cases what Arstein categorizes as 'tokenism' (Arstein. 1995 p.358-375) (Logan 2002, p.15).

The CCP has recently been keen on projecting an image of fairness and justice in their governance. The government has implemented a number of mechanisms for citizens to voice their opinions, lodge complaints, and legally challenge individuals, companies and the state. The majority of these mechanisms fail to fulfill their stated purpose and are largely for show. They are more evident of a refinement of the CCP's propaganda machine than any actual empowerment of the individual. The courts in China, like the Planning bureaus, are essentially departments of the government. They are expected to expedite the decisions of officials, not challenge them. Numerous widely reported cases of courts refusing to hear cases circulate, and cases of plaintiffs and their lawyers being intimidated and legally harassed (Human Rights Watch 2003) (Amnesty International 2007). Of the tens of thousands of mass protests every year in China, more than half are related to land seizure (The Economist Oct 16, 2008).

The lack of empowerment of the individual in China negatively effects the urban environment in several ways. As individuals have little or no input as to how development occurs, large-scale projects (the most profitable) are easily approved and implemented. Development guidelines are often ignored and historic buildings and districts are summarily demolished to make way for these projects. While there is a growing movement to protect historic structures in China, the aforementioned ties

between government and development companies, and the rampant corruption that these relationships breed, has led to an urban development process where few decisions are made for the common good. The physical effects of this trend include not only the destruction of historically valuable structures and environments, but also the preclusion of mixed, historically layered environments. Thus, large-scale, single use, homogenous environments are the norm.

This phenomenon has also had devastating social consequences. To make way for new developments, residents are relocated en mass. Residents are relocated primarily to multi-tower apartment blocks located in outlying urban areas. While these new residences generally contain much sought after amenities, such as modern appliances and air conditioning, traditional patterns of work, daily life, and social interaction, are often irreparably destroyed. Those who made their living based on their former land or community, such as farmers and craftsmen, are often left with no viable means of income. Dislocation from former places of work and the lack of adequate public transportation also add to this effect. The lack of public, and semi-public spaces in new developments has also destroyed traditional patterns of social interaction. This has been particularly devastating for older residents.

1.4.7 Urban form as image

Considering how these urban environments are used as symbols or showpieces of progress and greatness, it is unsurprising that much of the architecture and urban design in contemporary China is oriented towards surface image as opposed to site-specific

design innovation. It is more important how things look, than how effectively they function. This trend is the product of a society shaped by an authoritarian government. It can be likened to the way in which controlled media reporting in an authoritarian government is more concerned with producing a positive image of the government than reflecting factual reality. As in the Soviet Union, aesthetics in China have always been closely monitored and influenced by the state (Tang 2000, p.10). Cities such as Shanghai, Beijing and Chongqing can be considered as state projects (White 2008, p.135). Thus the urban environment becomes a vehicle for state propaganda. When this is the case, an urban environment does not reveal the deep cultural history of a place, but rather conceals it. This inherently runs counter to the goal of reflecting the *genius loci* of a place through environmental design.

1.4.8 Summary

The preceeding discussion of the structure of the property market, the planning process, and the state of public agency in China, indicates how the lack of checks and balances inherent in the authoritarian government of the CCP, as well as the restrictions on citizen input and agency in the development process, has led to the creation of substandard urban environments. In the following sections, the case of Chongqing will be examined. Through historical analysis, it will be demonstrated that this new designation of Chongqing as a municipality and the related government sponsored program of development, has been motivated by national, as well as local interests. The urban environment of Chongqing will then be examined in detail to demonstrate its specific

architectural and social value. It will then be argued that the recent program of development threatens the place-specific value of this environment.

Part 2 Chongqing

2.1 History

2.1.1 Geography and ancient history

Chongqing is located in central China at the southern edge of the Sichuan basin. It is walled in on either side by several north to south running mountain ranges. The urban core sits at the junction of the Jialing and Yangtze rivers. The history, and development of this city are directly related to these geographical features. The mountain ranges to the east and west are conducive to defence against land invasion, while the two rivers have been the economic life-blood of the city in terms of agriculture and trade.

Human activity in the region of Chongqing dates back more than 20 000 years. In the 11th century B.C., the Ba people established the state of Ba with the present day site of Chongqing as its capital. It has changed hands between numerous warlords and emperors throughout the years. As discussed in the section of China's spatial economy, the area remained culturally distinct from the Han dominated eastern heartland up until the 1949 revolution, the majority of the migration of Han people to the area has occurred since that time.

2.1.2 Modern history

Chongqing began to undergo dramatic change with the retreat of the Guomandang (KMT) from the invading Japanese. In 1937 the capital was relocated from Nanjing to Chongqing. While this marked a period of rapid population influx and related urban development, the city was relentlessly bombed by the Japanese and the majority of

structures were destroyed. After the final retreat of the KMT to Taiwan in 1949, the city served as the seat of the Southwest Bureau of the CCP Central Committee and was governed as a municipality directly under the central government. This was no doubt to ensure an eradication of lingering support for the nationalists in their former headquarters. In 1954 this status was revoked and Chongqing became a city under the jurisdiction of the government of Sichuan. In a tentative move towards reinstating its municipality status, Chongqing was given the authority to govern the cities of Wanxian and Fuling in the early 1990s. In 1997 Chongqing again became a municipality directly under the control of the central government.

Based on a combination of military and economic imperatives, one can see a logical progression in the various administrative changes that Chongqing has undergone over the twentieth century. The retreat from Nanjing by Chang Kai Shek and the nationalist army, and the selection of Chongqing as the new capital was due largely to the mountainous terrain surrounding the city and its remoteness from the major cities of the east coast. Chang wished to draw out the Japanese army, using the vastness of China's undeveloped interior to his advantage. Chongqing's terrain provided defensive properties with mountain ranges to the east, west and north of the city, making a land based attack extremely difficult. The smaller mountains within the city itself were excavated into an extensive network of tunnels that served as bomb shelters for the population during the relentless Japanese air campaign that followed. The Yangtze River also provided an established supply link to the south.

After the defeat of the nationalists and the reestablishment of the capital in Beijing, Sichuan and the area surrounding Chongqing continued to be developed for military production as part of the previously mentioned Third Line Plan. Along with military production, the economy became focused on light manufacturing, including motorcycles, chemicals, textiles, machinery, processed food, and electronics. These sectors have focused on the domestic market due to the city's inland location.

Establishing Chongqing as the fourth municipality under direct control of the central government served the dual purpose of developing the interior economically and also gaining a tighter political grip on a region with numerous military installations--including nuclear bombs (Broad 2008)--and a geography well suited to defensive military strategy. The CCP is well aware that if there were an internal rebellion at some point in the future, Chongqing would once again serve as an ideal base of operations for rebel forces. The massive area of land that now encompasses Chongqing municipality can be understood partly as a strengthening of political control in the larger interior region.

The importance of understanding the history of Chongqing lies in comprehending how the administrative changes, and the current government sponsored investment in developing the city, stems largely from the its military history in the twentieth century. And if recognized as thus, the government's involvement in the development of the city can be seen as an attempt to bring it under tighter control. If this is, in fact, a major motive behind the city's development, it would follow that the government would encourage an urban form that emphasized the national as opposed to the local, and the

modern as opposed to the historic. Or in other words, the goal would be to alter the *genius loci* of the city with imported homogenizing patterns and forms.

2.2 Architecture

2.2.1 Historic architecture

2.2.1.1 Diao jiao lou structures

Chongqing is renowned for its traditional cliff-side (diao jiao lou) structures sitting on the steep hill-sides near the banks of the Yangtze. These structures were erected in the early part of the 20th century as housing by peasants whose lives depended on the Yangtze. The most dramatic and gravity defying clusters of structures have now been demolished but some examples of these structures can still be found in pockets throughout the city. Squatters erected these structures on land that was unused due to its extreme topography. Poised on wooden stilts these houses make use of cantilevering to maximize floor space. The walls are traditionally made of woven thatch with a mix of materials including rice gluten. Through a combination of materials and the ample use of windows, the structures are reputed to be well ventilated and effective at dispelling moisture. This is imperative in a climate as humid as that of Chongqing. The exposed wood frames in combination with the bright white exterior walls forms a visually striking, irregular, modular blanket across the hillsides. The chaotic arrangements tell the story of how the local people have adapted their lives over time to the geography. These structures continue to be referenced in contemporary architecture, public art, and promotional materials as one of the most prominent symbols of Chongqing.



Image 13: Traditional housing, Chongqing

2.2.1.2 Stone structures

The older areas of Chongqing are replete with stone structures. What is unique about these neighbourhoods is how the structures meld with the surrounding infrastructure. Due to the extreme topography, many of the pedestrian paths and public areas that surround these buildings are formed of a complicated matrix of stone steps, tunnels and bridges. It is often difficult to tell where a building ends and the infrastructure begins. Many of these structures from the early part of the century stand perfectly erect as a testament to the high level of craftsmanship in the masonry. The stone provides ample insulation for Chonqing's winters and protection from the intense heat in the summer. The structures, as well as the infrastructure often display a range of building materials and methods that are a result of years of repair and renovation. One can see the use of cut stone, loose stone, brick and concrete, all in the same wall. Each of these layers of construction is a visible chapter in the history of the place. One feels a remarkable depth of time when walking in these areas.



Image 14: Historic brick structure undergoing demolition

The biggest problem with these structures is their lack of proper retrofitted plumbing and electricity. The lack of underground sewer pipes is of particular concern to the health of the residents. Repair and renovation has also been neglected and many of these historic structures stand partially collapsed and condemned. Aside from posting condemned notices, there is little evidence of a coherent mechanism by the government to systematically evaluate and improve the condition of these historically important structures.



Image 15: Bridge partially converted to apartments



Image 16: Former bomb shelters converted into businesses

2.2.1.3 Traditional public space

Just as the structures in Chongqing's older areas blend with the surrounding infrastructure, so does the public space ambiguously intersect with the private. Public space tends to be formed of small alcoves on the sides of paths surrounding the structures. Shading structures are often erected over these areas where older residents gather to talk, or to play chess or mahjong, Sometimes this space is walled and gated in small courtyards in a more traditionally Chinese layout, but this is rare. Storefronts predominantly open onto the street, where much of the retail commerce takes place. The Chinese have a knack for extending their interior spaces out into the public realm making for a colourful mix of scenes and scenarios. Along with the socializing and chess playing,

one sees food being prepared, babies being changed, laundry being washed, women putting on makeup, and craftsmen engaged in their trade. In a mix of commercial, social and personal activity, the residents have claimed a collective ownership of the public space, thus cementing the sense of community. Here one is not presented with faux surfaces and facades, but rather a deep look into the lives of the people.

The negative aspects of these older public areas, again revolve around the lack of proper maintenance. Modern street lighting and street furniture are generally absent. Tangled masses of wires drape around buildings and paths. Street repair and garbage removal is also clearly lacking. Despite the billions of renminbi that have flowed into the city in recent years, it is clear that this money has not been allocated towards upkeep and renewal of existing areas, but rather towards their demolition and replacement.

It should also be noted that it is easy to fall into the trap of romanticizing these older neighbourhoods. While they may be pleasant to walk through, they pose many obstacles to the transition towards a modern lifestyle. While some of these problems could be solved through renovation and upgrade, others are more difficult to overcome. Car ownership is virtually impossible for residents here due to the lack of vehicular access roads. This also brings up the problem of emergency vehicular access and accessibility for older and handicapped residents. Social stigmas are also associated with older areas. The majority of residents, especially the young, would be happy to leave these older neighbourhoods behind for good and move into a modern high rise apartment. Thus to preserve these neighbourhoods as viable communities for the 21st century, attention must

be paid to providing connectivity, education, social services, and economic opportunities to the residents.



Image 17: Pedestrian infrastructure



Image 18: Pedestrian infrastructure

2.2.2 Maoist architecture

2.2.2.1 Introduction

After the communist revolution, Mao set about dismantling the urban environments of China and replacing them with environments that reflected the philosophy of socialism. As described in the previous section, Mao demolished a great portion of China's cities and rebuilt them with standardized concrete structures centered on industrial production. By the pinnacle of the Cultural Revolution, the practice of architecture had become sidelined to the point where architects were primarily engaged in improving functionality and efficiency in construction. Whereas in the majority of cities this led to very standardized environments, Chongqing was curiously resistant to the homogenizing effects of Maoist urban policy.

2.2.2.2 Character based on terrain

The Maoist architecture in Chongqing is unique, once again as a result of the topography. In terms of building type, construction materials, interior space, and facade treatment, the buildings from this period are essentially the same as in any other Chinese city. But in Chongqing, one finds a wide-range of architectural solutions to the problem of building densely and efficiently in a mountain city. Most of these solutions again center on efficiently combining the buildings with their surrounding infrastructure. Many ten-story buildings sited on hillsides have their entrances on the fifth floor, so as to avoid the necessity of elevators. Pedestrian skywalks are common, and tunnels, ramps, stairways and bridges, wind around, under and through buildings in a broad vocabulary of irregular spaces.



Image 19: Stairs



Image 20: Steps



Image 21: Brick apartment building with pedestrian infrastructure



Image 22: Pedestrian infrastructure



Image 23: Concrete apartments with new construction in the background

These buildings are almost exclusively constructed of bare concrete. This material rapidly degrades in a hot, humid, polluted environment like Chongqing. Also, most would find the uniform dirty grey colour of the material, drab and somewhat oppressive. But the uniform colour and unbroken surface serves well to highlight the irregular geometry of the city. One can clearly see and feel the plethora of curves and angles that comprise the built environment. The colour of bare concrete is also very close to that of the local stone, making for coherent transitions between old and new.



Image 24: Apartment Building with entrance on third floor



Image 25: Concrete residential structure



Image 26: Industrial buildings along the Yangtze

In truth, most of these buildings are unattractive, very poorly constructed, and unfit for modern living. Still, they present many viable solutions to the integration of denser high-rise construction into the mountainous and historic environment of Chongqing.

2.2.2.3 Faux traditional

This Maoist period also saw the construction of large areas of more traditionally styled single-family homes, and two storey commercial blocks. These structures are fashioned after the wood framed *Diao Jiao Lou* structures described in the previous section. The difference is that these structures are constructed entirely from cast concrete. The

exteriors are painted brown and white to replicate the colours of the traditional structures. These structures can be considered the first wave of a new direction of architecture in Chongqing and China at large; an architecture that attempts to conceal construction methods and building materials in order to produce faux surfaces. This adoption of misleading surface traits in architecture will be described in more detail in the following section.

2.2.3 New development in Chongqing 1997-2009

2.2.3.1 Introduction

The post-Mao urban environment in Chongqing is largely characteristic of the urban design and architecture in China's large coastal cities. These characteristics include the relocation of industry to the urban fringes and to allocated industrial parks; multi-centre CBD development connected by highways; large-scale showpiece squares; and large-scale, multi-tower apartment complexes. The city is divided into districts with three of the main districts, Shapingba, Jiangbei and Yuzong, forming the central urban area. These districts compete with each other for investment and development.

2.2.3.2 Relationship to the geography

What has always been the key to the uniqueness of Chongqing's urban environment is the Mountainous terrain. The mountains precluded the strict geometry of the Chinese imperial city. The topography also resisted to a degree the homogenous functionalism of the Maoist urban environment. Over the years a vernacular style of design has evolved in the city whereby the pedestrian and vehicular infrastructure became fused together in a mixture of roads, steps, ramps, bridges and buildings. In the contemporary phase of development, this vernacular uniqueness is rapidly disappearing. Vast economic resources and improvements in earth moving technologies have made it the norm to remove small mountains to make way for new developments. Explosions can be heard throughout the city as mountains are gradually flattened. Trains of dump trucks are seen moving the debris to dump into valleys. The regional geographical character that has existed for millions of years is rapidly disappearing.



Image 27: Demolition in progress



Image 28: Train of dump trucks moving earth

2.2.3.3 Infrastructure

While the new character of building projects is serving to conceal the underlying geography, the newer infrastructure projects have come to reflect the underlying topography in new ways. As opposed to the construction of buildings it is much easier to raise highways and rail-lines on pilings than to flatten out the ground. This infrastructure can also be constructed over the top of an existing built environment. Thus, in Chongqing the highways and light rapid transit wind over, around, and through buildings and mountains in fascinating configurations. Unfortunately, traffic engineering still clearly takes priority over issues of public space (Ruano 1999. p.25). While the aesthetic and

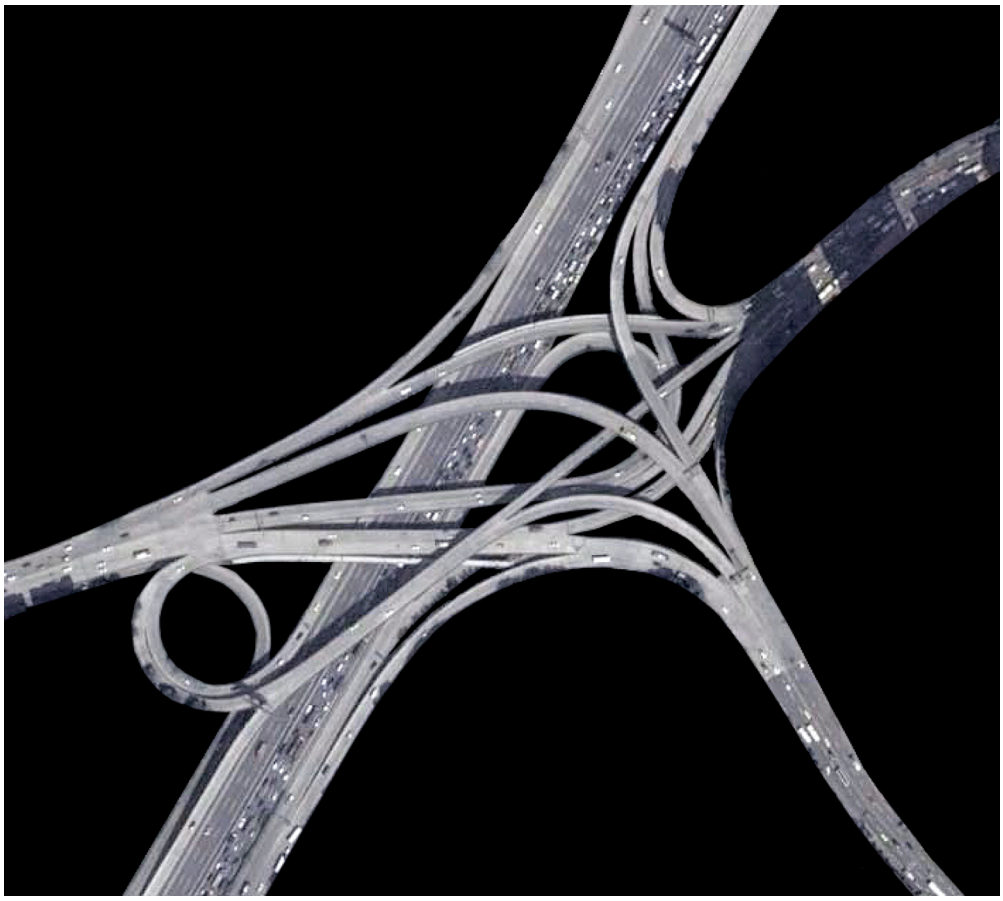
social value of this infrastructure is debatable, it is most certainly awe-inspiring in terms of its site-specific monumentality.

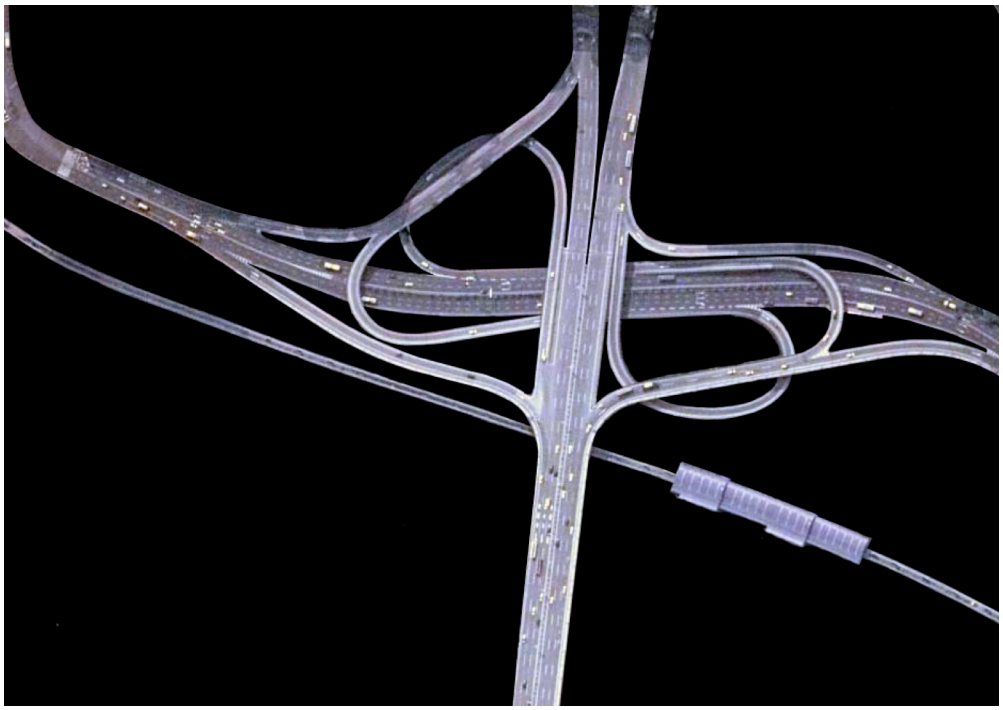


Image 29: Raised highways



Image 30: Raised highways





Images 31-32: Interchange formations, Chongqing

2.2.3.4 New housing developments

Recent housing developments in Chongqing are similar in character to those in China's large coastal cities. Developments range from upscale clustered townhouses, to single tower apartments, to multi-tower apartment complexes. These multi-tower projects are often comprised of as many as twenty, forty-storey towers, occupying tracts of urban land in excess of 100 hectares (Han and Wang, p.95). Consistent among these types of housing projects is the absence of any attempt to integrate these projects into the existing fabric of the city. As mentioned, it is common practice now to remove any irregularities in the topography. The larger projects are of course the most damaging, aesthetically, environmentally, and socially. Not only is the landscape irreparably destroyed, these modern-styled high-rise buildings tower over traditional structures with no attempt at aesthetic continuity. The same rupture in continuity occurs socially. The majority of new developments are private gated communities. Not only is there no attempt to create a continuity in the public character of the city, access to these areas is often prohibited to the public at large. This disappearance of public space is one of the most troubling effects of recent development in the city.



Image 33: New residential construction



Image 34: New residential apartment complex

2.2.3.5 Environmental issues

New developments are often inappropriately sited and poorly constructed. This creates many adverse effects in terms of the comfort of the residents and the energy efficiency of the structures. New apartment blocks are often constructed with very large windows or full glass wall facades. This is inappropriate for the extremely hot summers in Chongqing, where temperatures can exceed 40 degree Celsius. Poor insulation is also common in new projects. Exterior building envelopes have little insulation material. Loosely fitted single-glazed windows and generally inferior construction materials are the norm (Glicksman 2006, p.11). It is estimated that residential buildings in Beijing consume 50-100 percent more energy, in terms of space heating, than building in comparable climates in the West (Zhu and Lin 2004, 36:1287-1297). It is reasonable to assume that residential buildings in Chongqing are similarly inefficient. This would help to explain why the average household energy consumption in Chongqing increased by 70 percent between 1990 and 1994 (Glicksman 2006, p.11).

A further issue of environmental inefficiency in Chongqing's new residential developments is poor siting. In the extremely hot and humid local climate, it is important to site buildings to take advantage of prevailing wind patterns to allow for natural cooling and ventilation. This has become even more imperative with the increase in vehicular traffic. In the mornings, one can see and feel the clouds of radiation fog that settle into the city's valleys. There are many cases where the density of the built environment does not adequately allow for the proper ventilation of this pollution.



Image 35: Overly dense construction in Chongqing

It should be noted that China's central government as well as local governments have taken steps to address the energy inefficiency of the built environment. Energy efficiency standards were first created for Chongqing in the late 1990s (Glicksman, 2006. p.13). In 2001 national energy standards were drawn up for the 'transition zone', which includes the Chongqing region (p.13). In 2006 the central government mandated efficiency standards in urban construction. The mandate requires a reduction in energy use in urban buildings in Chongqing and other large cities by 65 percent from current levels (Xinhua, 2006). All of these standards are positive developments. But for them to have any effect there must be a drastic improvement in the inspection of building projects and the

enforcement of the standards. Unfortunately, the well-documented, widespread corruption in the real estate industry in China make this prospect unlikely.

2.2.3.6 Pedestrian environment

Despite the interesting forms that have arisen in Chongqing's vehicular infrastructure, the emphasis on vehicular oriented environments has come at the expense of the pedestrian environment. A preponderance of large-scale gated communities has also contributed to this problem. Traditional local markets and neighbourhhood commercial areas are being replaced by massive commercial squares and mega-centers. The showpiece projects tend to be favoured over the renovation and upkeep of existing areas. Commercial squares are commonly comprised of street-level shopping, several higher-end department stores, technology oriented malls, and underground lower-end malls. The commercial centers are arranged around broad pedestrian boulevards with extensive outdoor seating areas. This is where a large-proportion of migrants make their living illegally, shining shoes, selling flowers and crafts, transporting goods on poles, or begging.

The most noteworthy pedestrian shopping district in Chongqing is Three Gorges Square (*san xia guanchang*) located in Shapingba district. Three Gorges Square is themed around the Three Gorges Dam and the area of the Yangtze that has now largely been flooded due to the dam's construction. The pedestrian boulevards are heavily planted with trees and flowers. Several old growth trees have been transplanted, and a mini Three Gorges Dam has been constructed around the central square. Numerous monumental

sculptures rendered in the Soviet social-realist style, depict stern-faced muscular comrades striving for the glory of the nation.



Image 36: Mini Three Gorges Dam, Three Gorges Square

Three Gorges Square is a clear example of environmental design used as a propaganda tool—both in terms of the scale, grandeur, and modern styling of the construction, and in the use of the Three Gorges theme. The garden-like greenery ironically depicts a landscape that has largely been destroyed by the dam. The presence of the dam itself in miniature, reduces it to a friendly, human-scaled complement to nature. Many of the public sculptures commemorate the local history and environment. Pole carriers are monumentalized in bronze while their human counterparts are for the most part residing illegally in the city. This is evidence of the increasing subtlety of China's propaganda

machine. The surface image of the local is depicted within the envelope of a nationally oriented program. Just as the planting depicts that which has largely been destroyed, the sculptures monumentalize a local culture that is in fact, rapidly being replaced by a programmed national culture.



Image 37: Monumental sculpture, Three Gorges Square, Chongqing



Image 38: Landscapiing in Three Gorges Square



Image 39: Old growth tree, transplanted to Three Gorges Square



Image 40: The Three Gorges Museum, built to resemble the Three Gorges Dam



Image 41: Sculpture depicting 'diao jiao lou' housing

2.2.3.7 Historic preservation

The speed of Chongqing's recent development has led the mass destruction of historic districts. While it is impossible to measure the true scope of this destruction, it is safe to say that the majority of the city's historic architecture has been demolished in the last 15 years. One need only walk around the city for a day or two to see numerous stone structures marked for demolition—displaying the telltale spray painted red circle with a dot in the middle—or in the process of being demolished. The scale of new development clearly makes any concerted historic preservation plan unworkable. I personally witnessed the wholesale demolition of older districts that extended for kilometers.

When preservation does occur, it is often misguided. Historic buildings are sometimes preserved but not as part of a concerted plan. One example has two buildings preserved in the midst of a private multi-tower luxury apartment complex. The buildings will be converted to a private clubhouse for the residents (Harvest Capital 2007). Obviously there has been no attempt to integrate the new development—of what appear to be 40 storey towers—with the existing historic environment, or to make these buildings accessible to the public. They are not being preserved as something of value to the culture as a whole, but rather as something to be isolated and co-opted by the highest bidder.

The largest preservation project in Chongqing is the historic town of *Ciqikou.* Ciqikou is a popular weekend destination for both locals and tourists. Economically, it is a huge success, as crowds fill the area's narrow shopping streets and riverside restaurants. Unfortunately, none of the original structures still stands in the area. To prepare the area

as a designated historic district, all of the structures were torn down and rebuilt in concrete. The exteriors of the buildings have been painted brown and white to mimic the colours of the original materials. While Ciqikou is still of some historic value in terms of the preservation of the street layout and the form of the buildings, it is another example of equating image with substance.

Faux surfaces are now the norm in the city. For infrastructure projects, concrete is carved to look like stone, and historic brick buildings are painted in more vibrant shades of their underlying materials. This is reflective of the culture as a whole. In an authoritarian government, reality is manufactured. The surface of things is invariably disconnected from its underlying essence.



Image 42: New commercial complex designed to replicate traditional local architecture



Image 43: 'Diao jiao lou' structures represented in a concrete embankment.



Image 44: Painting old brick structure



Image 45: Producing faux stone wall from concrete

2.2.3.8 Planning principles

The culture of planning in China has been shaped to a great extent by the agenda of the CCP. Under Mao, the individual was treated as a cog to be shaped in the service of the larger machine of the state. To this day the majority of China's leaders are trained as engineers. And while the government has relaxed certain controls on the minds and lives of the people, the approach to government remains decidedly production oriented and mechanistic. It is unsurprising then that the approach to urban planning reflects these mechanistic traits. One sees a mechanistic approach in the emphasis on transportation systems and development over the improvement of general living conditions; the mass relocation of people; the focus on large-scale projects over renewal; the failure to adequately protect historic environments; and the emphasis on the built environment over the natural environment. Aesthetics, sociology, psychology, and environmental science are not a part of the engineer's education. Similarily, it has been argued that in China there has not been a clear separation of the fields of urban design and urban planning as there has been in the West (Tang 2000, p.348). Thus the practice of urban planning in China, is still often equated with the practice of physical design.

2.2.3.9 Structure of the property market

The character of recent development in Chongqing has been largely shaped by policy mechanisms set in place by the central government. These policies have allowed various agents both governmental and private, to rapidly obtain funding and approval for

numerous large-scale development projects over the last decade. It is important to examine these policy mechanisms, and relationships, for as Han and Wang (2003) note:

> *Past research and findings reveal that the different goals and ideologies of agents and institutions, their relative power in the urban development process, as well as the nature of interactions among agents and institutions and the kinds of constraint they impose of each other characterize a property market and also shape the built environment.*

Examining the institutional structure of a property market is even more imperative when the institutions involved are under the control of an authoritarian regime such as the CCP. For an authoritarian regime, by its very nature, is not restricted by the checks and balances that limit the power of a democratically elected government. These governmental institutions therefore have much greater power to shape the character of the market.

The property market in Chogqing, is regulated by numerous governmental institutions. These institutions range from the Municipal government, through to the district governments as well as numerous departments related to planning, construction, and safety. In *The Institutional Structure of the Property Market in Inland China: Chongqing*, Han and Wang (2003) look at how the property market in Chongqing functions and how it is different from that in other major cities in China. In the case of one large development project, they found that twenty-three different government institutions were

involved in one way or another. Considering this plethora of agencies, it is not surprising that a survey of developers in the city found that they spent as much as 60 percent of their time 'cultivating good relationships' with officials (p.109).



Image 46: The infamous 'nail house', Chongqing

Han and Wang note that the property market in inland China is much younger than in the coastal areas. Private agents only entered the market in the late nineties. They find that one of the main differences between the market in Chongqing and that in the coastal areas is a greater involvement by governmental agents (p.109). They note that even when

the developers were non-governmental entities, they were often former governmental institutions such as SOEs or were in partnership with actual governmental institutions (p.108). They also note that the municipal and district governments often serve to facilitate these partnership and also at times participate in stages of the construction process (p.108). As a result of these various partnerships they find that land leases in Chongqing are marked by irregularities in pricing. They also state that much of the operation of land acquisition of Chongqing takes place within a 'black box', suggesting that the potential for bribery and corruption is even more present in the property market in Chongqing than in other cities in China (p.110).

These findings turned out to be prescient. An ongoing investigation initiated in 2007 has found numerous high officials guilty of corruption and taking bribes in relation to the awarding of land leases and construction contracts. Those found guilty of taking bribes on a regular basis include the director of the Chongqing Planning Department, the chairman of the Land and Natural Resources and Housing Administration, the chairman of the Jiangbeizui Central Business District, the director of the Economic Development Zone Management Committee, the secretary of the Discipline Inspection Committee, and mayors and deputy mayors from all the main urban districts of central Chongqing. Thus it is reasonable to infer that the recent wave of development in Chongqing has been less the product of careful study and rational planning principles, than of the personal financial motives of numerous high government officials.

One positive aspect of this sweeping exposure of the corruption in Chongqing, is the fact that it has even come to light. Corruption is one of the most insidious characteristics of government in China. This issue is at the heart of many of the problems facing urban China today. If they are to be effectively addressed corruption most first be curtailed. Critics point out though, that officials are rarely prosecuted for corruption. When they are, the trials are highly publicized as 'show-trials' to convince the populace of the fairness of the justice system. In other words, they are another subtle form of propaganda. Another view though, is that this prosecution of officials at the municipal level is reflective of a growing devolution of power from the central government to more local levels of government (Tang 2000, p.352). It is evidence that decisions concerning the development of Chongqing, have largely been made at the local level. If one agrees that urban governance should be performed primarily at a local level, this would be reflective of a positive trend. On the other hand, the sweeping indictment of Chongqing's officials could be viewed as a reversal of this trend, or a tightening of control by the central authority.

2.2.3.10 Outlook

This paper argues that the current wave of urban development in China is indicative of an historical trend whereby urban development has, to a large degree, been reflective of a centrally based nationalistic program. In keeping with this thesis, many of the problems with the current patterns of development in Chongqing and China as a whole have been linked to the structure, philosophy, and governing practices of the CCP. This is certainly not to imply these problems are solely the result of the government. Many of the

problems with China's urban environment exist in countries with democratically elected governments. Many of these problems are primarily the result of the speed of China's economic growth over the last three decades. It is conceivable that many of these issues can and will be addressed within the framework of the current governmental system. It is also conceivable that the CCP can dramatically reinvent itself while still maintaining one-party rule.

It is also important to acknowledge the enormity of positive change that has recently occurred in China's urban environments. The focus has been on critically identifying and clarifying problems and their sources so as to proceed with the formation of solutions. While this paper has focused on the negative impacts of one-party rule on China's urban environment, it should also be noted that the governmental system in China has advantages in terms of quickly and efficiently implementing dramatic change. The lack of political opposition allows for long-term planning and the restrictions on the rights of property owners allow for rapid change to occur. One can infer that, just as the negative aspects of development have spread so rapidly, so too can positive solutions be rapidly and efficiently implemented. Over the last thirty years, the government has focused much attention on improving its urban environments. The living conditions of the vast majority of the urban population have dramatically improved over this period. Recently the government has broadened its focus from straight economic development to a wider agenda of environmental improvement. Encouraging signs of this include the program of nationwide tree planting that has been implemented with relative success and the widespread adoption of solar-powered water-heaters (Campanella 2008, p.299). It is

reasonable to suggest that if the government were to direct more attention to the broader social, cultural, and aesthetic aspects of the urban environment, rapid improvements would follow.

Part 3 Danzishi

3.1 Introduction

As this paper argues for a methodology of urban design based on the goal of reflecting the *genius loci*, it is important to present and examine an environment at the neighbourhood scale. Danzishi has been chosen as it contains many examples of the various types of historical, vernacular structures found in the city. It is also an example of the type of traditional pedestrian oriented community rapidly disappearing in the city.

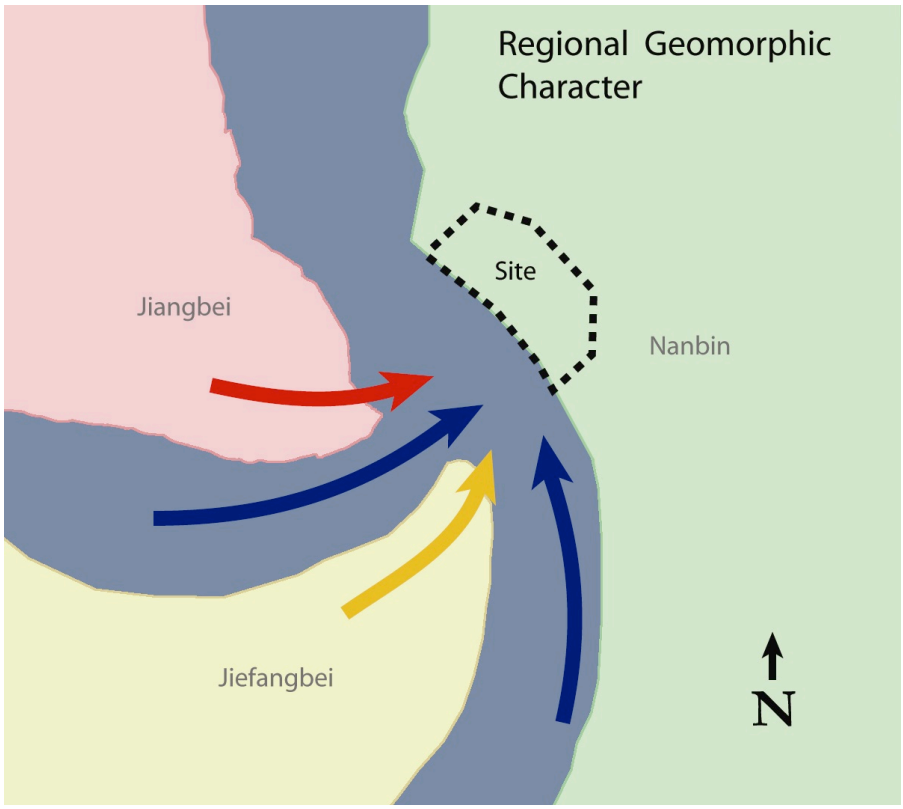


Image 47: Site of Danzishi, at the confluence of the Jialing and Yangtze Rivers



Image 48: Satellite image of Danzishi

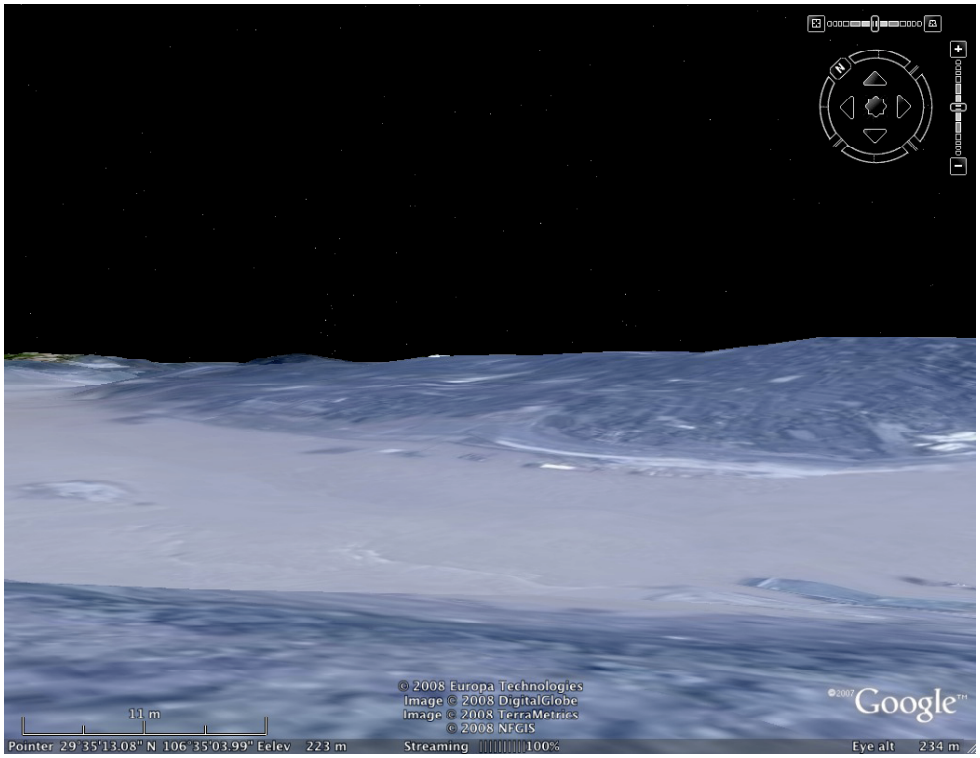


Image 49: Satellite image of Danzishi showing topography



Image 50: Danzishi: View of Jeifangbei



Image 51: Danzishi, Highway, river walk and Yangtze



Image 52: View from Danzishi to Jiefangbei



Image 53: River walk along Yangtze

In Danzishi, I took no statistical survey of the built form or the residents. While this information would be of great value, the purpose here is to give a sense of the general character of the community as a whole. The value of the community is most evident at a pedestrian level. The peripatetic researcher seeks to understand a place as a body moving through space, allowing the sights, sounds, and smells of a place to unfold. A flood of information is received, not in isolated categories, but rather in a series of chaotic observations. While this method makes it difficult to extract scientifically useful data, the researcher is arguably able to more closely experience the *genius loci* of a place than through the analysis of dislocated data. While the general academic structure of this paper has been maintained in order to provide continuity, the words, maps, and images have been combined to form a holistic portrait of Danzishi. Hopefully this will communicate the value of the place as a whole.

Danzishi is located on a hillside between the Yangtze River to the west and a commercial area located at the top of the hill to the east. The community has developed over time based on the fishing, trade and transportation facilitated by the Yangtze. At a larger scale, Danzishi is located at a key area, both geographically and in relation to the development of the city at large. It is located just to the North of the meeting point of the Yangtze and Jialong Rivers. To the south-west is the Jiefangbie CBD. This area contains the financial district and comprises the main downtown core of Chongqing. To the North-West is the Jiangbei CBD. This area is in the process of being developed as a cultural CBD. Development has focused on two showpiece buildings designed by foreign architects: a

new opera house and a new convention centre. Dozens of upscale apartment complexes have been constructed around these projects. The Danzishi area forms a triad with these two other areas, and as such, is an obvious and inevitable point of expansion for the city.

3.2 Built form

The built form in Danzishi is primarily divided between residential and industrial. The factories in the area focus on food processing, and light manufacturing. The largest of these industrial complexes is a still functioning Maoist era *Danwei*. This SOE acts as an isolated gated-community. It houses the employees and is not accessible to the public. Vehicular access to the area is extremely limited. One small vehicular service street runs through the neighbourhood giving vehicular access to the factories located at the bottom half of the hill. Thus transportation through the community is essentially limited to walking.

The residential areas are divided between older historic streets and newer residential streets built within the last fifty years. The majority of the historic structures are located around a central pedestrian street extending from the highway bordering the river, up the hill, to the commercial center at the top. Several clusters of mixed historic architecture extend off from this main street in small clusters. These buildings are comprised of a range of materials and building methods. Many of these older structures are dilapidated and have condemned notices posted on their doors. There is little evidence of any concerted attempt at repair and renewal. Significant areas of the community have also

been reduced to rubble. Much of this is a result of damage sustained from the Sichuan earthquake in 2008. The newer residential streets (built since 1950) contain structures that are typical of the late twentieth century architecture in the city. These three-storey and four-storey concrete buildings are not of any particular historical or architectural value. Buildings constructed within the last 15 years are noticeably absent.

At the bottom of this central pedestrian street, is the largest and most imposing of the historic structures in Danzishi. The French Naval Post was constructed in 1902. It was built to house naval personal and to ensure the transport of French goods along the Yangtze. It is constructed in the classical style and has essentially no architectural relationship to the surrounding community. The building has recently been renovated into an upscale bar and restaurant. It stands as a reminder of the how the Yangtze was used a key means of transport by foreign powers during the 19th century and early part of the 20th century. It is the only structure in the area that has been protected and renovated for its historic value.



Image 54: French marine building

The architectural value of the community as a whole can be identified both in the layout of the streets and houses, and in the range of architectural styles existing together. The seemingly chaotic layout of the streets has evolved in response to the geography. It speaks of the traditional importance of the Yangtze and the evolution of a mountain community. The houses and paths lead up from the river and follow the natural variations in the topography. The architecture of the older structures in Danzishi, speak of the specific nature of the site. They are constructed of local materials such as stone and wood. They exist as specific solutions to the local climatic and geographic conditions. These older stone structures are also evident of a high level of craftsmanship and solid construction. They have stood straight and solid for as long as 120 years. This is

compared to the vast majority of contemporary housing projects in China, which are notorious for their poor construction and generally have a lifespan of forty years or less.



Image 55: Wooden Diao jiao lou structure, Danzishi



Image 56: Brick entranceway, Danzishi





Image 57-58: top: Stone and brick structure showing four stages of construction. Bottom: Condemned wooden structure



Image 59: Condemned buildings, Danzishi





Image 60-61: Top and Bottom: Public space in Danzishi

The most valuable aspect of the architecture in Danzishi can not be isolated to either the layout of the streets or to any particular aspect of the structures. Its most significant value

lies in the way it fits together as a whole. The community stands as evidence of how a culture has evolved over time in relation to the local conditions. It is this evidence of a people's evolution in a place over time, which will be irretrievably lost with the demolition and redevelopment of Danzishi.

3.3 Residents

Until recently there has been very little census data available at a community scale in China. Some improvements have recently occurred but the data is still at a very crude resolution. The smallest scale of census data available today is at a scale termed the 'street office district' (*jiedao*), this is comparable to the 'ward' scale in the UK (Solinger 2006, p.179). This resolution of data is of little use in examining the population of a small community such as that of Danzishi. This area of study comprises roughly 5 percent of the area or population of the *Nanan* district, which is the smallest scale of census data available. As such, the majority of information provided on the residents results from casual interviews, and direct observation.

The residents of Danzishi are divided between working-class employees of SOEs, the unemployed, and the retired. Many work in the local factories or as labourers for the city, others operate small stores or restaurants located primarily on the main pedestrian throughway. The vast majority of residents are clearly on the lower-end of the economic scale. Residents in the community do not own their houses. Some long-term residents

living in the older residences pay no rent. Others, who had been assigned housing since 1950, pay nominal rent to the government.

The older residents I spoke to and observed were clearly happy with their lives in the community. The orientation of the community with its street level housing suited their everyday lives and provided a long-established and easily accessibly social network. They performed many of their daily chores, such as preparing food, cooking, and doing laundry, in the semi-public spaces around their residences. When relaxing, they would sit in front of the stores and residences socializing in small groups. For the elderly and handicapped, one clear downfall of the neighbourhood was the necessity of climbing stairs to get around. Those residents with reduced mobility were clearly limited in their movement to the immediate area of their residences.

At all times of the day, there was a noted absence of younger people under the age of thirty. In discussions with residents, it was clear that there were not many working opportunities for younger people in the area. Most younger working-age people had no desire to remain in Danzishi, both for its lack of opportunities and also for its stigma as a poor rundown area. It is safe to say that the majority of these younger people wished to move into one of the new high-rise complexes appearing throughout the city and leave Danzishi behind.

A large proportion of working-age residents in Danzishi are unemployed. The most visible activity in the community is Mahjong and card playing. This activity is seen in

numerous gambling rooms lining the pedestrian throughway, as well as at tables set up on the street. Although there is no attempt to hide this activity, it is considered a major social problem by many residents. One can surmise that many of the people involved in this activity are recently laid-off employees of SOEs.

When I first toured Danzishi with a class of architecture students from Chongqing University, there was a noted interest from the residents. Several of these residents asked the students what they were doing. Most were disappointed to hear that it was a student project. They had hoped that the visit signaled the imminent demolition and redevelopment of the area. Whether or not residents are happy with their current living conditions, they are resigned to the fact of the redevelopment of their community and their relocation to a high-rise community. Most are anxious to proceed with the next stage in their lives. Many also believe they will receive a cash settlement as part of this relocation. If in fact they will receive a cash settlement, and how much this settlement will be, is unclear. Some residents felt they would receive a sizable cash settlement as well as a new residence; others felt they would be given the choice of a new residence or a small cash settlement. It was clear though, that their opinions were based on rumours and hearsay. No one could say with certainty what the specific conditions of relocation would be.

This uncertainty in the future of the lives of the residents has produced many negative effects on the community as a whole. In terms of the built environment, new construction, renovation, and proper maintenance are lacking or absent. Socially, the

exodus of the youth has been exacerbated. Economically, there is no incentive to initiate new business ventures and the unemployed are discouraged from seeking new work. In summation, as a result of a lack of control over the future of their lives, the community is in a state of general stagnation.

Part 4: Case Studies

4.1 Introduction

In looking at case studies for the development of Chongqing, the majority of cases have been selected from within China and all are from within Asia. The reason for this is the obvious relationship between the particularities of a culture and the functional requirements of its built environment. The selected housing projects have each been proven effective in the introduction of innovative forms in the Chinese cultural context. Most also make use of some aspect of traditional local architecture. The *Hillside Terrace* project, by Fumihiko Maki, is the one non-Chinese case study. Located in Tokyo, this project demonstrates both a sensitive approach to hillside design, and also the rare example of a project that has been designed in stages over decades. There is no comparable project within the Chinese context. The Kunming development plan was headed by a Swiss team of planners working in conjunction with the local government and the local planning bureau. It presents an interesting case in terms of the level of communication necessary for an effective cooperation between foreign and local teams.

4.1 Housing projects

There have been numerous successful experiments with mid-rise housing in China. While none of these projects in themselves, represents a viable solution to the multifarious issues related to the development of Chongqing, each of them mitigates the basic need for higher density modern housing with the traditional spatial arrangements of Chinese

architecture. By doing so, they not only bridge the traditional and the modern in Chinese architecture, but also the corresponding lifestyles and behavior patterns they facilitate.

The *Ju'Er Hutong New Development* in Beijing, designed by Wu Liangyong, seeks to provide a buffer-zone architecture that acts as a transition between Beijing's historic and modern districts. The project provides modern residential comfort while maintaining the spatial and aesthetic language of the local vernacular architecture. The project provides a denser form of multi-family structure than the traditional *hutong*, while the greater mass of the structure is mitigated by the façade being divided into staggered components. The roofline, constructed of traditional materials, is also carefully broken to lighten the sense of mass and give the illusion of multiple structures. The traditional element of the semi-public courtyard is maintained. This speaks of the traditional relationship between interior and exterior space in Chinese architecture. It also allows for the traditional social patterns of the residents to largely proceed uninterrupted.

While the *Ju'Er Hutong New Development* maintains the traditional housing cluster formation, it only marginally increases density from traditional structures. The *Qinyuanxincun* complex in Tianjin, provides for a greater density while also making use of staggered divisions and broken massing (Lu and Shao 2001. p.231). The structures are sited to provide an integrated and varied relationship with the public space. Despite its large scale, the project avoids a monolithic disruption of the existing urban fabric by making use of different buildings types and styles connected by a unifying greenbelt. One area of the complex is primarily comprised of terraced garden housing, while another

utilizes structures connected by platforms and elevated streets. A third area contains land-saving high-rise tower blocks. The *Chunyuan* neighbourhood in Kunming, constructed in the late 1990s, sacrifices the low-rise housing cluster formation but strengthens the concept of the courtyard space (Lu and Shao 2001. p.271). The project provides a much higher density of residences while maintaining a traditional relationship between interior and exterior space and providing a higher level of public service facilities.

4.2 Community design: Hillside Terrace

Hillside Terrace in Tokyo, designed by Fumihiko Maki, presents the unique case of a community built in stages by one architect over a period of 30 years. Begun in 1967, the community has been designed and constructed in seven phases, with the most recent phase completed in 1998. Hillside Terrace has been admired on several fronts. The relationship between the interior and exterior spaces is sensitive and varied. Commercial activity is located at ground level while residences are located above. This provides for lively public spaces while maintaining privacy for the residents. The hillside geography is highlighted through a varied sequence of paths, stairs and platforms. Through pared-down modern materials, traditional elements such as the secluded courtyard or *niwa*, and the indoor-outdoor corridor, find new form. The natural and human history of the site has also been highlighted. Much of the original vegetation has been preserved and a burial mound, dating back to the seventh century, has been sensitively integrated.

The process of incremental development has allowed the relative success or failure of each design element to be comprehensively evaluated before the beginning of a new phase. This has led to spatial, material, and programmatic improvements over time. Not only has this process led to an improved functionality, it has also resulted in a uniquely varied urban fabric. The project is as much the evidence of evolution, as it is of design. Hillside Terrace is particularly applicable to the case of Danzishi and Chongqing in general. The project is instructive, not for any one aspect of its design, but rather for its successful integration of the disparate aspects of environmental design: the design process, the relationship to the geography, the relationship between structures and infrastructure, the reinterpretation of traditional spatial elements, and the sensitive integration of existing historical elements.

4.3 Urban design: The Kunming project

The redevelopment of the city of Kunming in Yunnan province, is the result of an extensive program of cooperation between a Swiss team of architects and planners, led by Carl Fingerhuth, and a local team of officials and urban designers. The project is exemplary of the benefits that can come from cultural exchange in the Chinese context. By spending years developing the plan for the city, the Chinese team were able to learn advanced principles in European urban and transportation design, while the Swiss team was able to learn about the workings of urban development in China and the specific situation of Kunming (Liu and Zhou 2002, p.14).

The Swiss brought forward important principles, which are reflected today in the character of the city. The three concepts of 'sustainable development, mobility, and identity' formed the overriding focus of the project. The Swiss team repeatedly emphasized the importance of developing a plan for the preservation of historic areas. Members of the Chinese team were flown to Zurich to see first-hand, the value of that city's existing architectural heritage. Workshops were hosted to demonstrate the methodological and concrete implementation of a preservation plan. A manual was developed illustrating how to effectively evaluate existing building stock based on façade inventory, spatial analysis, structural analysis, and use analysis. Out of these efforts, a new department in the local authority was developed to deal with historic preservation. To develop a lasting and workable preservation plan, the Swiss team covered all aspects of the preservation process: principles and theory, inventory, conservation practices, administrative procedures, and legal instruments.

Another important aspect of the plan was regulating the pace of development. Development in the central areas of the city was slowed down, while a new area to the north was set aside for rapid development. This allowed for the careful integration of new development with the existing built form, while also providing an immediate solution to problem of housing the city's growing population.

A third important result of the cooperation was the development of multi-scaled vehicular and pedestrian corridors. Concerning this, the Swiss team used the strategy of presenting two plans. The first plan presented a radical embodiment of these principles, while the

second was more conservative. A compromise was reached between the two plans, which suited the Chinese tradition of 'teaching of the middle course' (Wang 2002. p.64).

What stands out in the Kunming project is the importance of effective communication when dealing with cross-cultural projects. The Swiss team was focused on fostering an environment of mutual respect. By educating themselves on the local situation, and maintaining a positive attitude and a patient and open approach, the Swiss were able to not only educate the local team on the principles of European planning, but were also able to effect long-term changes in the approach to urban development in Kunming and China at large.

Part 5: Forming guidelines for the future development of Chongqing

5.1 Introduction

To begin to form a set of guiding principles for the future development of Chongqing, the problems with the current pattern of development must once more be reviewed:

- A lack of detailed survey and analysis of existing environments
- The corresponding large-scale destruction of established communities and historically valuable environments
- A lack of detailed development guidelines
- A lack of enforcement of existing guidelines
- A focus on large-scale show projects
- A corresponding lack of renewal projects
- Homogenous imported solutions that fail to reflect existing environments and locally established behavior patterns
- An emphasis on vehicular oriented environments and a corresponding lack of pedestrian friendly environments
- A lack of input and agency for residents
- Cheap and surface oriented design and construction
- Urban sprawl and the destruction of the natural environment

In order to create a comprehensive set of guidelines for development in Chongqing, it is important to recognize the differences between educational and theoretical principles, legal and governmental changes, and practical design and construction guidelines.

5.2 Education

The first step in defining a theoretical framework for the development of Chongqing is to improve the level of education among those making development related decisions. While many steps have been recently taken to improve the level of education among planning officials, many high-level officials have not received formal education in the field. The general level of education in architectural faculties in Chinese universities also needs improvement. The faculties need to define the goals of their various departments and focus more on the social impact of development. As it now stands many Chinese architectural schools, including that at Chongqing University, do not have planning departments. Instead, faculties of Urban Design are seen to fulfill this role. These departments tend to focus more on technical issues involved with the creation of master plans. Planning education in the West is focused on the social issues of development. Thus planners are educated to fulfill the role of guardians of the public interest. In China, the lack of a conceptual separation between urban planning and urban design leaves the role of planners poorly defined.

The programs of education in architectural departments in China, also need to focus more on the existing environment. From discussion with faculty and students at Chongqing

University, the emphasis tends to be on teaching established building types. While this emphasis leads to a quicker ability to design functional buildings, it fails to provide a holistic understanding of how buildings function in the wider environment. More emphasis should be placed on contextual design based on a broad understanding of local conditions.

5.3 Theoretical principles

- **Slow down the development process**

Slowing down the development process would greatly benefit Chongqing's urban environment. This would allow more time for data collection, analysis, and informed decision making. It would allow for a more rigorous and comprehensive plan of historical preservation and more contextually appropriate design decisions. Building design and construction would improve and the city would be allowed to grow more organically. The social effects of development would receive more attention, which would lead to better functioning communities. It would also ensure that new development reflects market demand.

While slowing the entire process down may not be a viable option, incremental growth strategies and defining a finer grain of development zones may be more realistic options. These strategies would allow for more targeted development and would help to ensure that sufficient data is collected on historic districts and more densely populated communities.

Census data for Chongqing and China needs to be taken on a finer-grained, more detailed level. The same is true of inventory data on the building stock. With this more detailed information, a truer picture of the effects of development could be achieved. Almost all issues concerning the urban environment would benefit from this. It would allow developers, officials, planners, designers, and academics, a means to complete more rigorous analysis on the community scale. This is the scale that is most crucial to understanding the social impact of development.

- **Development based on existing local characteristics**

Chongqing has a unique local culture, built environment, and natural environment. The goal of designers, planners, and officials should be to preserve and enhance these existing characteristics with new development. Revitalization should be prioritized over demolition and reconstruction. The existing terrain should also be valued as an integral part of this local identity and should be actively preserved. New projects should be oriented to fit within the existing built and natural environment, both in appearance and in function. New development projects should allow for a degree of continuity in the traditional behavioral patterns of the residents. This would necessarily entail a preference for smaller scaled projects that allow for a finer grained approach to development. It would also necessitate integrating certain spatial aspects of traditional residential complexes into new developments. New developments should also seek continuity in the existing public space.

Chongqing's industrial heritage should also be viewed as a defining characteristic of the city worthy of preservation. A plan should be considered to integrate the numerous brick, stone and concrete factories as much as possible with the modern city. In Shanghai a decommissioned *dan wei* was successfully converted into the 696 Artist's Community, with studios, galleries, shops, and restaurants. Examples of successful conversions of decommissioned factories into art museums, include the Tate Modern in London, and the MASS MoCA, in Massachusetts. Conversion of industrial space to newly renovated commercial space could also be considered. Larger scale industrial themed leisure districts, such as Granville Island in Vancouver, should also be considered.

The natural landforms of the region, the Yangtze River, the historic mountain architecture, and the built industrial heritage, should all be viewed as integral to the identity of the city. With this understanding of the identity of Chongqing, the quality of future development will improve.

- **Consider the residents first**

The impact on the lives of local residents should be the primary consideration in determining the direction of new development. Relocation should be discouraged and kept to a minimum. When relocation does occur, there should be a concerted attempt to create a new environment that allows the social and economic patterns of the community to continue.

To encourage revitalization of existing areas, incentives, such as grants, should be considered for upgrade and renovation projects by residents of historic structures. Programs designed to create new economic opportunities for residents of older communities should also be considered. This could include the creation of leisure, recreation, or tourist districts that make use of the existing built environment. Residents could be prioritized in issuing business licenses and could be assisted in creating new businesses in these areas.

- **Prioritize the pedestrian environment**

The majority of the historic areas in Chongqing are pedestrian centered. While this presents many logistical problems for the functioning of a modern city, these areas provide peaceful, human-scaled environments for the residents. In many ways, they are exemplary of the pedestrian oriented neighbourhoods advocated by a growing number of encourage active living and an engagement with the city. They reduce the need for vehicles, encourage transit use, save open space, and create generally more livable communities. The historic pedestrian environments of Chongqing should not only be preserved for their historical value, they should be emulated in new community designs.

With the case of Chongqing, three impediments hinder the goal of emphasizing pedestrian environments. First, bicycle advocates have been strong proponents of improved pedestrian spaces in Western cities. Due to the rugged terrain in Chongqing, bicycling is not popular. Pedestrians do not tend to identify themselves as a group, so they are less vocal advocates. Second, issues of accessibility clash with the traditional

network of stone stairways throughout the city. Third, the hot and humid climate, as well as the high level of pollution often make walking an uncomfortable experience. Thus in considering viable pedestrian environments for Chongqing, designers must focus on the relatively flat areas of the city such as the banks of the Yangtze to create opportunities for walking and bicycling. Passive cooling, and mixed indoor-outdoor environments should be focused on when designing pedestrian networks.

5.4 Governmental and legal instruments

Numerous conflicts of interest exist in Chongqing and China, pertaining to officials with ties to the development industry. These conflicts of interest lead to decisions being made based on the personal gain of officials as opposed the greater good of the community or city. These conflicts of interest need to be actively exposed and eliminated. Adequate legal provisions need to be enacted and enforced to discourage this practice.

The lack of transparency in the bidding process on land leases in Chongqing has also led to widespread corruption. The mechanics of the bidding process, including the specific payments for land leases and how bidders are selected, need to be made available to the public. This is one necessary step towards reducing the rampant corruption in the industry.

One of the problems with a one party system of government is the lack of effective checks and balances on the government. The Planning department in Chongqing, should

operate independently from the government. This would create a department whose role would be to balance the economic goals of developers against the greater good of the city. The structure of the CCP as it now operates makes this difficult if not impossible to achieve. Nonetheless, this is a necessary step toward creating a balanced development process.

The Chongqing municipal government does not have a department of historic preservation. Such a department would serve the city well by creating a single office to deal with issues surrounding preservation of historic sites and districts. It would create a body where information would be centralized, proposals could be submitted, and disputes could be dealt with.

Laws have now been enacted nationally in China, that require the publication of all future development plans to the public. Town hall meetings have also been set up where citizens can voice their opinions and concerns about future development projects. This is a positive step in terms of involving the individual in the decision making process on urban issues. Up to now, these laws have been largely ineffective as developers often usurp these rules or fail to act on the opinions of residents. Mechanisms should be implemented that ensure affected individuals have a more active role in the development process.

The judiciary in Chongqing, as in the rest of China, is a *de facto* department of the government. One of its functions is to hear cases brought against the government by citizens. The judiciary though, is notoriously biased in favour of the government. Most

often they refuse to even hear these cases, when they do, they almost always rule against the citizen bringing the complaint. This is perhaps the most damaging aspect of the CCPs method of governing its people. The judiciary acts as a thinly veiled showpiece oriented to placate the people. It does not operated based on any consistent application of the law. As long as this is the case, all other changes to the structure of the government will be predominantly cosmetic.

5.5 Environmental principles

A major consideration in environmental design in Chongqing is the high level of air pollution. Although improving in recent years, Chongqing is still considered one of the most polluted cities in the China and the world. On a bad pollution day it is uncomfortable to be outside. The discomfort from air pollution is aggravated by high humidity and temperatures that exceed 40 degrees Celsius in the summer. The mountainous terrain further aggravates this problem as pollution collects in topographic depressions. Overly dense construction again adds to this problem by hindering the flow of air.

To deal with the problem of air pollution, designers should take advantage of prevailing winds to allow wind currents to flow between and through buildings. Residential communities should be located at higher elevations and building density should be kept to a minimum. Vehicular traffic should be discouraged. Pedestrian areas should be

shaded as much as possible. Tree plantings should be a priority. Hardy species with high biomass such as in the *ficus* family should be emphasized.

To combat high temperatures and reduce the dependence on air conditioning, glass facades should be discourages and passive cooling strategies should be pursued. This would include orientation of buildings to avoid direct sunlight on windows and to take advantage of prevailing winds. Passive cooling through vegetation should be applied as much as possible, around buildings, on balconies, and on roofs. All buildings should be well insulated and thick wall construction should be encouraged. Traditional local construction techniques should be emphasized, not only because they fit well with the urban fabric—but also because the materials and knowledge needed to implement these methods are locally available.

Part 6: Summary

In developing a set of guidelines for development in Chongqing this paper has first contextualized the city in terms of Chinese urban design history. This urban history has been largely shaped by three distinct eras of authoritarian rule: Imperial rule, from the 8th century BC to the 19th century; Maoist rule, from 1949-1978; and post-Mao communist rule, from 1978 to the present. While the urban form in each of these eras displays notably distinct physical manifestations, the corresponding central authority in each of these eras has relied on a strategy of directing urban development as a means to propagate ideology. In doing so they have prioritized an urban form that reflects the national, as opposed to the local. Homogenous imported solutions have been favoured over traditional local forms. Therefore, much of the urban environment in China fails to reflect the multifarious particularities of place and culture that have characterized the country over history. Taking the viewpoint that urban design is a necessary representation of local culture, the imposition of an ideologically based national system of urban form is argued to hinder the manifestations of local culture.

With this relationship between the national and the local in Chinese urban form established, the urban environment of Chongqing has been examined throughout the three aforementioned eras. During the first two eras, the city's built form took on aspects characteristic of the period yet remained largely distinct in its local character. This was primarily due to the robust geography in the region. The mountainous terrain necessitated local solutions for building type, infrastructure, and public space. In the most recent era

of post-Mao ‘market socialism’, the local character of urban form is rapidly disappearing. This is due to the speed and scale of development, backed by massive economic resources and aided by modern earth moving technology. The mountainous terrain is rapidly being flattened to facilitate large-scale projects. For the most part, these projects fail to integrate with the historic and topographic character of the city. Large-scale residential projects disrupt the fabric of the city and the traditional patterns of social interaction. Furthermore the traditional character of public space is disappearing as the city becomes increasingly oriented towards motor vehicles as opposed to pedestrians. Large, themed commercial squares have been implemented following the principle of multi-centered CBD development. Public interaction is becoming more and more isolated to these districts. Thus, the city’s public space is taking on the character of an archipeligo of contrived commercial squares.

In order to observe the effects of this transition on an individual community, the case of Danzishi has been examined. The architectural character of Danzishi is shown to be an expression of a community over time. It is a pedestrian orientated community with a mixed historical character. As a community unit, it is more the product of evolution than singular design. Thus, it has formed to suit the social and economic behavioral patterns of the residents. The social implications of the new urban environment in Chongqing are highlighted by examining how the lives of the residents will be affected by the inevitable demolition of the area and their eventual relocation to modern high-rise communities. It has been demonstrated that much about their social and economic behavior will be irreparably disrupted.

Through this broad contextual background, the problems with the new urban environment in Chongqing, are not only identified, but are traced to their sources. For the manifestation of urban problems can be likened to symptoms of broader societal ills. To develop effective guidelines to correct these problems is it necessary to target their root causes. In the case of Chongqing—as with the other cities in China—the main root of its problems lies with the relationship between the government and its people. The lack of checks and balances inherent in a one-party system, the lack of agency in the citizens, and the use of urban form as a tool of propaganda, has led to the imposition of an imported homogenized urban environment that is largely unsuited to the local behavior patterns of the majority of residents.

With this understanding, a set of development guidelines for Chongqing has been laid out. These guidelines are oriented to direct the course of development in the city to reflect the historical, environmental, and cultural specificities of the place. The guidelines are divided into the categories of education, theory, and government. They focus on a local and contextual approach that requires a slower, finer-grained development process. The guidelines advocate: historical, environmental, and social continuity; an emphasis on the pedestrian environment; accountability, transparency, and balance within government; and an empowerment of the individual.

While this paper has aimed to develop a set of guidelines that are directly applicable to the future development of Chongqing, its implications are not limited to this city or even

to the cities in China. The goal has been to lay out a methodology of examining the wide-range of forces and trends that shape a specific place over time. This methodology encourages crossovers, not only between the various categories of environmental design, or between theoretical investigation and practical implementation, but also across the broad array of fields in the humanities that address urban issues. This includes history, political science, economics, sociology and ethnography among others. For in an age of increasingly narrow specialization, understanding and guiding the direction of urban development, requires an ever-broader understanding of how the myriad fields of human inquiry converge in the elusive conglomeration that we call the city.

Part 7: Self-criticism

In attempting to demonstrate the broad historical and cultural influences that have shaped the urban landscape of Chongqing, this paper has delved into thousands of years of history. Fields of investigation, which are normally kept distinct, have been freely accessed and cross-referenced. It could be argued that the scope of this paper is too broad for a master's length thesis. Some readers may feel that it would have been more fruitful to select one more narrowly defined topic related to Chongqing—historical residential building types, for example—and develop that topic into a more comprehensive study.

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