THE RESEARCH AND APPLICATION OF URBAN CATALYST THEORY IN REVITALIZING HISTORIC URBAN QUARTERS------REDESIGN NANBUTING DISTRICT IN NANJING, CHINA

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ABSTRACT

With urbanization happening at high-speed throughout China, many historic urban quarters are aging and facing the problems of decay. Therefore, revitalization of historic urban quarters has become a popular and important issue, particularly in the Chinese cities. In some cases, however, the goal of revitalization has not been fully achieved. Nevertheless, several examples may bring useful information for further analysis and the search of solutions to the problem.

This thesis aims to find answers to the following questions: What is the urban catalyst theory? How can the urban catalyst theory provide a theoretical framework to guide the revitalization of historic urban quarters? How can the urban catalyst theory be applied to a historical urban district in China? What elements of the theory are most applicable, and which are not? What may explain this type of discrepancy? What kind of historic urban quarter may be the most suitable one for the Chinese cities, in view of their peculiar situations?

This proposed theory is a new redevelopment strategy, comprised of a series of projects that drive and guide urban development. The aim of this paper is thus to make a proposal for Nanbuting District, which is characterized by similar problems, based on the principles of the urban catalyst theory. The thesis will also shed light on the peculiarity of the historic urban quarters in China, taking into consideration the situation in the country during urban revitalization.

Based on this aim, this study will firstly present the theoretical overview on the concept of urban catalyst theory and urban revitalization. Consequently, the urban catalyst theory will be introduced as a theoretical foundation for addressing the problem of revitalization of historic urban quarters with the demands of the current modern city. Following the theoretical study, two case studies will be addressed with the purpose of evaluation of the proposed theory. As the main contribution of this paper, the author will apply the theory into the design proposal for Nanbuting district, in Nanjing,
Jiangsu Province, China. Finally, the paper will conclude with a brief summary on the general arguments presented in this work.

Several of the case studies, presented in Wayne’s (1989) book, present the urban situation in China as a repetition of the American urban development in the 70’s and 80’s. Therefore, the argument of the thesis is that the urban catalyst theory is also a suitable theory and method for revitalization of historic urban quarters in China, which may also bring in solutions for dealing with the problem which has been arised. The information and support my design proposal was collected through the interviews of the local residents and the municipal government in Nanjing, as well as the author’s own observations noted during the visit to the design area. Thus, the design proposal examines the significance of the urban catalyst as a means of revitalization in historic urban quarters in China. Finally, a suggestion will be given in regard to improvement of the future urban renewal system in the future.

**Key word:** historic urban quarters, urban catalysts, urban renewal, urban design, urban revitalizing, Nanbuting, China
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CHAPTER 1 INTRODUCTION

Background

The historic urban quarters are full of historical buildings, landscapes and other physical evidence of our past. This is a special place in the cultural and historical heritage in any country, which identifies the differences from traditional character and architectural forms. They constitute a part of our overall environment and possess a historical dimension, which makes them recognizable through the physical fabric of places. The historic urban quarter comprises the evidence of past human activity within a specific part of a historic city. They have mixed uses, traditional characteristics and specific functions, a historical identity with a unique local character, a historic fabric and street pattern. They are the centres of the social, economic and cultural life of the towns (Tiesdell et al., 1996). According to Ekici, the historic urban quarter, “being the witness of the past civilizations and accumulation of thousands of years’ creativeness, is the most precious constituent of the cultural heritage” (Ekinci, 1994)

Since the high-speed development of cities in developing countries like China, the tempo of urban renewal occurs at high speed. Urban tissues now is more popular than before. On one hand, the historic places are plentiful with wealth and opportunities, vibrant historic centres of commerce and culture. The local business and tourism try to activate the area and get more so-called historical atmosphere. On the other hand, the cultural heritage and historical buildings in historic urban quarters are increasingly threatened. One threatening aspect is deconstruction. It is characterized by the backward municipal facilities, the loss of buildings itself from traditional causes of decay, threatenings of fire hazard, poor environmental quality, bad transport accessibility, a disproportion of low-income neighbourhoods, decreased economic opportunity from changing social and economic condition and many others. Another threatening aspect is the changes of use and redevelopment in historic urban quarters. As a consequence, it may leads to the irreparable loss of the heritage value
and to reduced housing options for the urban population simply due to the inappropriate decision of redevelopment strategy.

The architectural environment has been undergoing various changes throughout time and space. These changes are not always positive. At times they may be negative and even destructive. Specifically, these threatening aspects may seem as a mismatch or conflict between the capability of buildings in historic urban quarters. This mismatch is often labelled as ‘obsolescence’. Due to the construction of buildings or other types of man-made environment in historic urban quarters, obsolescence may be revealed in different shapes and forms. The literature presents physical/structural, functional, as well as locational obsolescence. Besides these most basic types of obsolescence, other forms of this concept include image obsolescence, official/legal obsolescence and relative/economic obsolescence (Tiesdell et al., 1996).

Nowadays the revitalization of historic urban quarters brings many benefits to the cities and the local residents both socially and economically. It also provides enhancement of human development. During the renewal of historic urban quarters is not creating new urban fabric or fabricating a fake history in these places. In the historic urban quarters renewal in China, when it comes to reconstruction, the conflict arises in how to deal with the relationship between the historical culture value and the traditional characteristics of the modern daily life. This problem misled a number of urban planners and architects, which in turn ruined the intangible value of area. What came out as a result were big-scale square constructions, with the public green spaces decreased and the rest of the areas commercially exploited. Nevertheless, the government is working on the development and protection of rational patterns after several irrational protection strategies were applied.

ICOMOS (International Council on Monuments and Sites) went through the Washington Charter since October, 1987. The Charter states that during the protection of historic urban area, one should respect the original spatial pattern, especially original plots scale they divide. It is also important to keep and transfer the value of buildings to the new group and not go against the new modern factors which may match the situation. This creates a puzzle of how to achieve
historical urban quarters in physical, functional and economic ways, with historical culture connotation being kept a central issue during revitalization of historic urban quarters.

In the end of the 1980s, the American architects Wayne Attoe and Donn Logan proposed a strategy called Urban Catalyst for urban design. By laying out the basis for analyzing and summarizing the urban design projects, they looked at several cities in mid-west America. As a result they developed their own style of urban renewal and revitalization in American cities and distinguished the traditional European theory.
Brief introduction of design area

Why is Nanbuting area?------A joint letter

The Protection of Historical and Cultural Area in Nanjing is in an Emergency

This petition was signed and supported by 29 experts and scholars from Nanjing, it was delivered to the Ministry of Construction, State Bureau for Preservation of Cultural Relics, Jiangsu Province and Nanjing.

Image 1-1: A joint letter

Source:
A series of forced relocation happened in Baixia and Qinghuai District of Nanking recently. Taking into consideration the Chinese Law of the People’s Republic of China on the protection of cultural relics and Regulation on the Protection of Famous Historical and Cultural Cities, Towns and Villages, we are to pay close attention on this incident. In general terms we find that the Former residence of Yang Guinian from Qing Dynasty(1644-1912 A.D.) was destructed on Anpin Street and transformed into a real estate unit. Wang Bingyun’s lodging house, which is the representative of the Architectures Built During the Period of the Republic of China, was torn down in order to build clubs and private apartments in Nanbuting District. At the west of Qinghuai River, the houses representing the Qing Dynasty architecture became destroyed and swept away in order to build fake antiques.

Last year, the municipal government started to take action on protection of historical areas, however the step of destruction occurred at faster pace than protection. The destruction plan called House renovation project spread to the most important historical districts. Nanbuting District, Anping Street, East of Gate, Jiaofu Alley is being demolished while and East of Gate is in the early stage of demolition. The destroyment of the historical and cultural values seriously threatens the old part of Nangjing and puts the whole city into the danger of demolition!

Nanjing which called ‘The capital of ten Dynasties’ was selected as one of the first among the national historical and cultural cities. South of the Old Town part is the root of historical and cultural heritage beside the Qinghuai River. The architecture in the south of Old Nanjing maintains the layouts, architectural features and cultural connotations of Jiangnan ancient residence after thousands of years.

As a well-known historian Jiang Zan believes that the South of Old Nanjing Area contains vast amounts of historical rudiment and information. It is a miniature of Old Nanjing history. According to Zheng Xiaoying - a famous expert on ancient buildings, Nanjing’s ancient residences represent the classical Jiangnan style architecture with the green tiles, white walls and give prominence to the local feature and the architectural style.
Hou Renzhi, Su Bai, Xu Pingfang, Luo Zhewen and other 12 experts also signed and supported the petition to the State Council to oppose old housing demolition in October 2006. Premier Wen Jiabao gave back his important instructions. In March 2008, The authorities in the Department of Architecture and Historical Relics reaffirmed in revision of ‘The Plan of Preservation of Historic Cities’. Among those are: ‘Must have the Integrated Principles of Protection’ (Zhou Ganzhi), ‘Special protection in South area in Nanjing’ (Wu Liangyong), ‘Maintain a history of Authenticity’ (Xie Chensheng). There is less than 5 million square meters of old area left after continuous demolition which prevailed for many years. It only takes up 2 percent of the Nanjing’s total. There is no room for negotiation for ‘whole protection’ based on ‘Regulation on the Protection of Famous Historical and Cultural Cities, Towns and Villages’.

It was given out that the dominant ideas of dilapidated house of Nanjing included ‘expanding domestic demands for development’, ‘Actively cultivate new points of economic growth’. It is believed that the social demands will rise up after the expanding demolition and the property sales will bloom.

The demolition itself brings numerous inconveniences, as the local inhabitant are forced to relocate as a result. Although the policy makers claimed that they adopt a new way to improve it, according to the current housing demolition reports, there is almost no ancient housing residences left. As a result this leads to the exclusion of the key provincial cultural units. If it keeps on like that the historic cultural Nanjing will exist only in its name.

It is also important to point out that there are fundamental differences between historic urban quarters and urban shantytown. For that matter, the government is to take action on institutional innovation via heritage protection, real right protection and social security. The policy should both improve the living conditions of the people actually under a proper old city renewal policy, taking the cultural heritage protection into consideration. The traditional community and social customs may disappear totally if the local inhabitants continue moving out. It will bring a series of serious problems into people’s lives, as well.
Over 4200 and 1600 households moved out during the Nanbuting Project (Forth Stage) and South Gate Street Project (Second Stage), respectively. The compensation for demolition is only 7000 Yuan per square meter in Jiaofu Alley area which is close to city center. As a result, a question arises regarding how to relocate the families in the city, who rely on the compensation? Most of them were in the lowest income bracket and felt dependent on the old city for schooling of their children, health care and employment. How can they survive after moving away to the suburbs? One is to remember that the legitimate property of citizens is protected under the aegis of Constitution and the Property Law. So it is a gross violation of Citizens Property Rights if it separates the citizens and houses in such a violent manner.

In August 2007, in order to resolve the housing difficulties of urban low-income families, the government gave a new policy according to the Several Opinions of the State Council on Solving the Housing Difficulties of Urban Low-Income Families of the State Council. The aim was to improve the low-income families' living conditions and to protect the historic urban quarters. In July 2008, the law of Protection of the Famous Historical and Cultural City was put in force throughout the country and signed by Premier Wen Jiabao. It clearly defined the integrated protection of city as a historic and cultural unit. The city government should completely discard the old way of thinking about demolition from the point of view of the GDP and scientific development, and try to find a solution in which everyone would be a winner.

Today, an unprecedented ‘Dangerous Houses Transformation’ Project is keeping on the step progressively. The old town of Nanjing will be torn down completely in several months unless we take an urgent action on it. For this reason, there is an urgent appeal as follows:

First and foremost, to put an immediate stop to any demolition in the old town of Nanjing in the light of Regulation on the Protection of Famous Historical and Cultural Cities, Towns and Villages. To implement the ‘Overall Conservation’ way to protect all the old architectures and the ancient residential houses which are threatened by demolition. We must be extremely careful to the reconstruction of dilapidated houses in historic urban quarters and make sure the dilapidated
houses could keep the basis on the original form. The buildings which are old but not construction-damaged should be preserved and renovated with considerations of modernization inside, in order to match the daily use and to keep the exterior. According to the form of traditional courtyard, Taking a Small Scale-Graduality-Tiny Cycle Rebuilding Mode step by step to improve local living condition.

Secondly, more ancient folk residence and ancient streets and alleys are to be passed on to the different level units of cultural relics protection, thus integrating the third national cultural relics census. At the same time, it is important to publically announce the ‘historical architecture’ and provide more protection to the buildings which are valuable and full of local characteristic in accordance with Regulation on the Protection of Famous Historical and Cultural Cities, Towns and Villages. The persons who are directly responsible of the destruction of cultural relics protection units shall be given sanction in accordance with the law.

Last but not least, the government should establish new mechanism of preservation and renovation in historic urban quarters. It is necessary to reflect on the master plans of Nanjing and Plan of Preservation of Historic Cities in Nanjing as well as a guide from master plan of Beijing in 2005, which focused on pushing and confirming the Reformation of Urban House Property.

The old town of Nanjing may be living through the last minutes of its own history now! In order to protect the National Cultural Heritage and not to lose our real hometown, please give the old town of Nanjing to our next generation!
The design site is located in a city named Nanjing. It is the capital of Jiangsu province in eastern China and has a prominent place in the Chinese history and culture, having been the capital of China in the Six Dynasties. Located in the lower Yangtze River drainage basin and Yangtze River Delta economic zone, Nanjing has long been one of China's most important cities. It is recognized as one of the Four Great Ancient Capitals of China, as well. The city is located 300 kilometres west-northwest of Shanghai, 1,200 kilometres south-southeast of Beijing, and 1,400 kilometres east-northeast of Chongqing. Nanjing, with a total land area of 6,598 square kilometres and an urban population of over 7 million (2011), is the second-largest commercial centre in the East China region after Shanghai and one of the largest economic zones of China.

An important part of Nanjing historical and cultural city is Nanbuting district, located in the center of the old city of Nanjing. It is one of the few existing residential districts that have typical traditional housing architecture with a profound cultural foundation and features. This district has different styles of architecture which originated from the Six Dynasties, in which the former residence of Gan Xi is a cultural relic preservation site of national-wide level. Therefore, it is of a certain historical value and a stimulus for potential development.
The challenges of design area

According to the joint letter introduced above, the Nanbuting district and other relational areas which are located in the south old town of Nanjing were threatened by destruction or reconstruction since 2009. The Environmental Reconstruction of Nanbuting historical district project is composed of four stages. The project aroused less attention in the society in the first
two stages due to the small amount of demolition involved. During these two stages, the main task was renovation and expansion of cultural relic protection units. The conflict of preservation and demolition never ended with the demolition further enhanced since the Third Stage started, even though the state department paid close attention to the case. It was temporarily suspended from the end of 2009 to the middle of 2012. The current situation, however, is not very optimistic. More than 4000 residents were forced to move out during the demolition, with over 1200 residents choosing to stay there despite the demolition. The traditional street patterns and the layout of the alleys were undermined after the demolition. Several buildings were destroyed and some of them were kept in their poor conditions. Nevertheless, these buildings are full of traditional characteristics and are in need for improvement.

This thesis will further introduce Nanbuting district and provide a detailed analysis of the site in the chapter 7 on design proposal.

**Research Question**

The thesis aims to answer the following research questions: What is the Urban Catalyst Theory? How can the urban catalyst theory provide a theoretical framework to guide the revitalizing historic urban quarters? How can the urban catalyst theory be applied to a separate historical urban district in China? What elements of the theory are most applicable, and which are not? Why does this discrepancy occur? What kind of historic urban quarter is suitable for the Chinese situation in the city?
Literature review

Urban Catalyst Theory

The concept of urban catalyst originates from the book of “American Urban Architecture - Catalysts in the Design of Cities” by Wayne Attoe and Donn Logan. The authors present several urban design projects in the cities of Mid-West America and analyze the urban design strategy of urban catalyst in particular. There they come up with a definition of urban catalyst: “We postulate that the strategic introduction of new elements can revitalize existing ingredients of the urban center without necessarily changing them radically. And even as the catalyst stimulates such new life, it also affects the form, character, and quality of urban elements that are subsequently introduced. In short, a controlled catalytic chain reaction takes place” (Attoe & Logan, 1989:p.4). They stress that the purpose is thus the incremental, continuous regeneration of the urban fabric. The important point is that the catalyst is not a single end product but an element that impels and guides subsequent development (Attoe & Logan, 1989:p.46). Reflecting on this, a detailed analysis will follow in the theoretical part of the thesis.

However, it is necessary to point out that the mentioned theory is rarely presented in China. Only several source which introduce the concept or provide a simplified application of it, were found during the literature review process. The discovered sources include: ‘Catalyst effect’ in urban design, a study on the Influence Applied to Surrounding Environment Induced by ‘Catalyst effect’ urban project, Connotation and Function of urban catalyst----a case study in the new city center of Bao’an in Shenzhen (Jin, 2006); Catalysis of urban development by city metro transportation (Lu, 1998); Protection, developing catalyst----The Exploration of the Protection of the Historical and Cultural City (Jiang, Z.H., 2006); Brief Discussion on Urban Catalyst Theory----Case study on Xintiandi of Shanghai (Zhang, 2005).
Revitalizing Historic Urban Quarters

The historic urban quarters in the thesis concerned with areas where there are a significant number of historic buildings concentrated in a certain area. (Tiesdell, 1996:p.8). That is mean to say, the districts which are full of Sense of Place is one of most important part in a city which is full of charm and vitality. The famous book of this concept is Revitalizing Historic Urban Quarters from Steven Tiesdell, Taner Oc and Tim Heath. They gave a detailed analysis to urban renewal in urban design.

Methodology

This thesis used literature review and case study methodology in order to retrieve the needed information. The choice of the proposed methods satisfies the overall goal on the research. Thus, the thesis aims to provide an understand of the urban catalyst and revitalizing historic urban quarters, as well as observing how the two work together. The summary of the thesis will present the main findings in Chapter 8.

The theoretical view should be concluded systematically and objectively according to the numbers of quantity and quality of articles. It means that the same information can be found easily from different authors. In addition, the summaries of the literature reviews cannot cover the all data of theory. The statements achieved from the relevant articles or books should be identified and analyzed in critical way. Trying to search the key word in different papers and getting exact information to support the statement that be concluded.

Another source of material included the suggestions from the municipal government of Nanjing. These suggestions, however, were filtered and selected in accordance with the data search. Apart from that, the author herself lived and
studied in Nanjing and was able to carry out an investigation of the area, as well as interview the local residents and take photos during the on-scene investigation.

Five major electronic bibliographic databases were used for data search: Google Scholar, National Knowledge Infrastructure (CNKI), Wanfang Data, Chinese Education Library, Blekinge Tekniska Högskola Library. The key words put into the search were: revitalizing, historic urban quarters, urban catalysts, urban renewal, Nanbuting, China.

The multiple searching and database presented numerous books and articles, the most relevant of which were selected and included into the list of Literature Review. A certain standard was set for the search of articles. Namely, the following search terms: definition of urban catalyst; revitalization of historic urban quarters; an analysis of urban catalyst and revitalization; the characteristics, advantages and advantages of urban catalyst using in historic urban quarters. The database was expected to include at least two of the aspects in the selection criteria.
The structure of thesis

Introduction

Research on revitalizing historical urban quarters

Analysis of the types of catalysts in revitalizing historic urban quarters

The proven ingredients of urban catalysts in historic urban quarters

Case One
Xintiandi

Case two
Tianzifang

Design proposal of Nanbuting district in Nanjing

Conclusion

Image 1-8: structure of the thesis  Source: Made by author
The thesis aims to study the urban catalyst theory by applying it practically to the design of Nanburing area in Nanjing. By proposing a design of the area, the thesis will present findings of the peculiarity of the revival in the historical urban quarters in China.
CHAPTER 2 THEORETICAL STUDY OF REVITALIZING HISTORIC URBAN QUARTERS

Definition and development of historic urban quarters

The historic urban quarters is a complex of historical buildings, traditional characteristic landscape and traditional social life. Recorded with the city's formation, development and evolution, they serve as carriers of the historical and cultural heritage. They constitute a unique place full of cultural and historical value, identified by their traditional character and architectural value (Doratli, 2007). A historic urban quarter is part of our overall environment. It is the historical dimension, recognizable through the physical fabric of places. The “historic urban quarter” comprises all evidence of past human activity within a specific part of a historic city. They possess mixed uses, traditional characteristics and specific functions, a historical identity with a unique local character, a historic fabric and street pattern. They are the centers of the social, economic and cultural life of the towns (Tiesdell et al., 1996).

The historic urban quarter gained attention in 1930s. The “Athens Charter” -a first internationally recognized programmatic document in urban planning area - mentioned the issue of “architecture and area with historical value”. Specifically, the Charter states that “ancient buildings with historical value should be properly protected”, with the main contents being the following:

1. Retained the buildings which are representative and can raise interest and educate people.
2. Preserve the architecture without impeding to the health of residents.
3. All main roads should avoid going through the ancient building area, thus avoiding the crowding traffic which could hinder the urban organic development (The Athens Charter, 1930).
In 1960s, the Venice Charter for the Conservation and Restoration of Monuments provided its own definition:

“"The concept of a historic monument embraces not only the single architectural work but also the urban or rural setting in which is found the evidence of a particular civilization, a significant development or a historic event. This applies not only to great works of art but also to more modest works of the past which have acquired cultural significance with the passing of time” (The Venice Charter, 1964).

The Nairobi proposal extended the concept of "protection", describing historic quarters as:

“"The most important witness to a reflection of religious, cultural and social diversity. They should be passed on to our offspring. The protection, restoration, and combination with modern life must be thought as one of the basic principles in urban design rules and land development” (The Nairobi Proposal, 1976).

In 1977, Machu Picchu Charter proposed to “preserve and maintain the historic sites and monuments, as well as to inherit the traditional culture based on the consideration of the need of urban renewal” (Machu Picchu Charter, 1977).

Consecutively, the Washington Charter provided a more clear definition of the historic urban quarter, emphasizing that “preservation of historic towns and historic district should become an integral part of the policy of economic and social development, should be included in all levels of regional planning and identified the significance, principles and methods of preservation in historic urban quarters or a wider range of historic towns” (Washington Charter, 1987).

In the British context, urban quarters are also referred to as "urban villages". The feature of this kind of quarters is considered to be relatively small size, mixed uses, a pedestrian friendly environment, and a mixture of type and sizes of buildings and diverse tenure (Tiesdell et al., 1996:p.7).

The historic urban quarter contains abundant historic urban landscape, in the recent document of UNESCO Charta (2011) on Historic Urban Landscape, the urban area understood as the result of a historic layering of cultural and natural values.
and attributes, extending beyond the notion of “historic centre” or “ensemble” to include the broader urban context and its geographical setting.

1. The historic urban landscape approach aims at preserving the quality of the human environment, enhancing the productive and sustainable use of urban spaces while recognizing their dynamic character, and promoting social and functional diversity. It integrates the goals of urban heritage conservation and those of social and economic development.

2. It is rooted in a balanced and sustainable relationship between the urban and natural environment, between the needs of present and future generations and the legacy from the past.

Thus, the above mentioned documents, focusing on the historic district or cultural architecture, up to these days provide experience for conservation of historic urban quarters.

Development of revitalization historic urban quarters

Many cities have quarters that confer on them a sense of place and identity through the historic and cultural associations they provide. They are often an integral part of the city’s charm and appeal, and their visual and functional qualities are important elements of the city’s image and identity. In addition, as historic quarters are often located in central areas, their revitalization is often part and parcel of the general revitalization of cities (Tiesdell et al., 1996: p.7).

The historic urban quarters recession is an inevitable phenomenon in the process of urban development becoming an increasingly global problem. The quarters decay showing status: traffic congestion, housing stress, environmental pollution, economic recession, social unrest, unemployment, poverty, all kinds of crime and so on. Due to the different socio-economic background of the various countries and the different stages of development, the type of recession in historic urban quarter is different as well. Accordingly, the way of urban renewal and historic urban quarter revival has their own characteristics in different countries.
After the Second World War, the population of industrial metropolitan western centers moved to the suburbs, and the original central areas started to decline. As a result of their venue losses, dilapidated housing and facilities, job losses, recession, social security and living environment tends to deteriorate. Confronted with the urban problems, many western countries raised urban renewal campaigns, knocking old buildings down and starting all over again. This was considered to be the most effective way to solve the housing problem and to improve the levels of housing. The value of the historic urban quarter in this period was not evaluated correctly. Moreover, it was even considered a dilapidated place, which was to be removed and given into comprehensive development.

After more than 10 years of practice of tearing down and reconstruction, growing doubts and opposition started to arise. It was often blamed for great damage to the local community as well as those who can give the unique historical neighborhood feature and natural beauty. With the transformation of urban renewal planning and ideas, a large-scale demolition and reconstruction has been changed to cautious and progressive alterations. The goal of this strategy made the neighborhood update wider and richer. Thus, people's values were altered, which as a result led to protection of the historic districts. But not all of the historic urban quarters were able to be preserved as a museum or a museum district. Therefore, there are still clues to be found regarding the ways to revitalize these districts and integrate into the whole city function.

As Graz pointed out that “restoration of a historic area often obscures the fact that what is being restored is of only meager meaning to the larger context of the whole city and is of a scale too small to remain or become again a significantly productive patch of the larger urban fabric” (Wayne, 1989:p.258). She also claims that “cities like Louisville, Fort Worth, Atlanta, San Diego, St Louis and countless others show off a few blocks of a restored downtown when the rest of downtown is too much of a bulldozed, rebuilt nightmare”(Wayne, 1989:p.258-259). Therefore, any attempt of the revitalization of historic urban quarters must consider the context and the environment carefully. It is also necessary to handle the contradictions among the demand of economic development and the limitation of development for protective
landscape. Similarly, through the analysis of a series of North American and European cases of revitalization of the historic urban quarters, professors Tiesdell, S., Taner, O. and Tim, H. from the Department of Urban Planning of the University of Nottingham summarized that after the process of protection of a single building to blocks, the revitalization of historic quarters should also involve both the renewal of the physical fabric and the active socio-economic use of those buildings and spaces, in order to ensure the possibility of the existence of the historical value in the modern urban fabric for a long time.

The purpose of protection is thus to ensure that people possess a better awareness and understanding of the social life and cultural identity in the history through the existing historical fabric. At the same time, historic space of cultural value may at times merge with modern urban functions, through application of appropriate protection, repair and remediation and adaptation of a historic space to the modern society and the time. Moreover, by way of protection of physical fabric and renewal of the neighborhood’s function, the landscape character, the traditional context and the cultural connotation could graft onto the new urban social and economic basis. This is the way for the historic urban quarters to be reborn.

Problems and challenges of the contemporary historic urban quarters in China

If compared with the western countries, the urban development in China started relatively late. Due to the complex social and historical reasons and the dominant natural economy, the industrial revolution in the world impacted urban development in China very little. After the liberation of China, the Chinese government went ahead with the traditional planning economic system in a long time. Thus, the old cities still reflect structural characteristics of the closed cities with the planned distribution and the self-sufficiency. However, the revitalization of historic urban quarters in China along with the process of urban renewal and the historic cultural conservation has its own unique characteristics.
From the 1980s to the early 1990s, due to the rapid economic development and saturation of land use in new districts, investors started paying more attention to the old city centers and started to explore new areas. Over the same period of the 20th century, the policy-oriented economic construction and public awareness of preservation were weak, the result of demolition and construction was widespread across the country. However, urban conservation systems in that period are limited to the pivotal cultural relics units. Namely, the Law of the People's Republic of China on the Conservation of Cultural Relics (1982) and the Guidelines for Law of Cultural Relics Conservation (1992). The general district and space pattern is thus getting very little attention and has therefore been severely damaged. This “Constructive Destruction” is exactly the same as “Tearing Down and Reconstruction” renewal movement in early western countries.

In 1990s, with the establishment of the system of historical and cultural city, the Chinese urban conservation system began to form the double conservation system in ancient architecture and historical and cultural city, and put forward the concept of conservation of the “historical cultural area” as a supplement. Although it already has conservation regulations and a more comprehensive management mode for cities, it is quite common that the historic urban quarters are still seriously damaged and laws are not fully observed or enforced. Besides, urban construction continues to be a threat to the survival of the historic districts.
The transformation of the historic urban quarter still remains in preliminary development and testing phase, which makes scholars and experts concerned about the continuation of the old and the new form and cultural inheritance, as a result putting forward the theory of “organic update” (Wu, 1994).

The significant progress may however be observed in several projects. For instance, at the residential quarter of Tongfang street in Suzhou, Ju’er Alley in Beijing (Image2-1), the commercial street of Nanjing Road in Shanghai (Image2-2), and Tunxi Street in Huangshan City (Image2-3). It may be pointed out that, there are however some problems of the conservation and revitalization of historic urban quarters. The following four aspects may summarize the problems:

1) High population density and lack of the refurbishment to the building scientifically

The buildings full of history in historic urban quarters are out of time for construction and utilization, material aging and full of outdated facilities. Following the increasing population density, the overloaded to repair, unauthorized construction or alteration, a lot of historic buildings were changed dramatically. Moreover, due to the lack of refurbishment and preservation, there are a lot of unsafe and abandoned buildings. The
environmental quality is thus deteriorating, the poor infrastructure is aging, and the process overall is far away from the modern life.

2) Functions of historic urban quarters are not defined

The multi-functionality is a very important characteristic for the living historic district. Due to the geographical advantage and opportunities, there are varieties of shops, which include commercial businesses, catering services, cultural and recreational facilities. They, however, crowd the historic urban quarters. The shops are mostly located in low-rise buildings along the streets. On the one hand, this mixed city structure of commercial and residential activity inspired a variety of leisure types for the residents. On the other hand, due to the lack of reasonable planning and design, the historic urban quarter scene became undermined, as well.

3) The blind tourism planning is highly destructive to the historic urban quarter

Several planners thought that the historic urban quarter conservation was equivalent to the general urban reconstruction and attraction design. That, however, forced the residents to move out. Besides, the traditional houses and bazaar was changed to tourist facilities. The old buildings were taken apart and the new buildings were built under the name of conservation and development. Numerous archaized streets would thus possess the tourism function. This approach, however, ignores the cultural and historical value and focus on purely its economic value. This, in turn, leads to valuable historic urban quarters turning into “fake antiques”. If the historic district lost the traditional way of life and social attributes, the life of authenticity and the original historical charm would be lost as well. At the same time, the factitious factor with the damage from tourists, generated garbage, emission of harmful gases effect the historic district. Through direct or indirect contact with the local residents, the locals will get influence from tourists, they may changed their personal value and behavior, lifestyle, moral value, gain foreing language skills and so on, it is also a tangible and intangible loss. So it is totally wrong way to treat the historic urban quarters as a tourism resource.
4) Destruction of historic urban quarters landscape due to new projects

With the development of market economy, more and more investors participate in the real estate development of historic districts development projects because of bid and tendering way of doing business to obtain the benefits and profits. This, however, is a double-edged sword. On one hand it is a good way to solve the fund-lacking problem. On the other hand, owing to the developers’ overdevelopment and misinterpretation of historical value, and the incomplete legal system, the planning standards and guidelines in front of economic benefit, rises many constraints. From perspective of land development, under the name of transformation of old and dangerous buildings, the government may ignore the guidelines of the land-use right, the requirements of the buildings height, intensity of use and so on. Moreover, it may provide the preferential policy of granted land-use to investors who can pay benefit back to them. This practice constitutes another big problem of historic urban quarters.

Conclusion

Based on all the discussions posed above, there is a pending contradiction between conservation and revitalization of the historic urban quarter and economic development, especially in contemporary China. The most of historic urban quarters are dilapidated of physical environment which hinders urban, social and economic development. At the same time, poor infrastructure can not satisfy the different requirement of residents, now the conservation and revitalization of the historic urban quarter gradually developed into a dynamic way called "development" to promote "revitalization". Blind-project development led the historic urban quarters to the bad situation, causing hazard to the historical heritage. What is the way of leading the historic urban quarter to the right direction? How can one seek more practical and harmonious ways to alleviate the contradictions? In the next chapter, I will introduce the American urban catalyst theory and will try to find useful application of it to revitalization of Chinese historic urban quarters.
CHAPTER 3 THEORETICAL STUDY OF URBAN CATALYST THEORY

The definition and development of urban catalyst

Catalyst

The term “catalyst” is derived from the chemistry concept. The Oxford English Dictionary’s definition of a catalyst in the field of chemistry is: “substance that when present in small amounts increases the rate of a chemical reaction or process but which is chemically unchanged by the reaction; a catalytic agent (A substance which similarly slows down a reaction is occas. called a negative catalyst)”. The meaning of “catalyst” may also be extended to: “one that precipitates a process or event, especially without being involved in or changed by the consequences”.

Urban catalyst

Drawing on the extended definition of catalyst, it may be similarly be applied to urban catalyst, as an element which can promote the changing of city structure and change the speed and mode of city development. From urban perspective, the catalyst in the urban design may be described in the following way: “It is the positive impact an individual urban building or project can have on subsequent projects and, ultimately, the form of a city. It encourages designers, planners, and policymakers to consider the chain-reactive potential of individual developments on civic growth and urban regeneration” (Attoe & Logan, 1989:p.3).
The development of urban catalyst theory

In the end of 1980s, the practice was to use European visions when they did urban design in America. However, the American architects Wayne Attoe and Donn Logan thought various urban design theories based on the forms and institutions of European cities are useful but they are insufficient to the design needs of American cities. They wanted to outline a theory which could serve in planning the regeneration of American cities based on American urban forms and institutions. The premise was for the American urban design style to have a spirit and identity all their own (Attoe & Logan, 1989: p.11). According to their reconstruction projects in America, they believed that those who describe the rebuilding of cities typically employ the metaphors of renewal and revitalization, suggesting with the first “a surgical procedure comparable to an organ transplant or a prosthetic implant and with the second the reintroduction of life” (Ibid, 1989: p.12). Accordingly, “the process of renewal itself is too radical because it means tearing out too much and replacing it with alien elements, and the process of revitalization is not powerful enough to structure an ongoing regeneration” (Ibid, 1989: p.13). In the background of the statement, they brought up the idea of urban catalyst and elaborated it in detail through the typical American urban design projects in the mid-west America. They postulated that the strategic introduction of new elements might revitalize existing ingredients of the urban center without necessarily changing them radically. And even as the catalyst stimulates such new life, it also affects the form, character, and quality of urban elements that are subsequently introduced (Ibid, 1989: p.13).

The purpose of urban catalyst is the incremental, continuous regeneration of the urban fabric. The important point is that the catalyst is not a single end product but an element that impels and guides subsequent development (Ibid, 1989: p.46). The function principle may be briefly summarized in a way that the catalyst only acts on adjacent area at the beginning,
consecutively changing and developing the nature and external conditions of elements. The old elements in the city were attracted by new elements, the old catalyst elements interacted and integrated with new one when the city was being constructed and developed. After that, a larger catalyst will appear and impact greater range of the urban area. Finally there comes out an urban linkage reaction and renews the city to the catalyst way (Image3-1).

From the view of urban design, urban catalysts could be one element in tangible way (Image3-2). For example, an urban catalyst might be a hotel in one city, a shopping complex in another, a transportation hub in a third. It could be a museum or a theater. It could be a designed open space or, at the smallest scale, a special feature like a colonnade or a fountain (Ibid, 1989:p.46). On the other hand, intangible urban catalysts could be an urban development policy, an urban historical event, a special activity, a report or set of guidelines and so on. A catalyst of urban construction and development may differ. This thesis, however, only focused on the tangible urban catalyst from urban design perspective and I will not discuss the economic or the real estate investment aspects. For example, an infusion of funds which may lead to other infusions of funds, a remarkable design which may lead to other another outstanding design. An urban design project or architecture design project can be a good example to encourage and improve other design identity and spirit during its development. Therefore, it is potential to connect old and new construction together.

Based on Wayne Attoe and Donn Logan ‘s discussion, adapted to describe the urban design considerations, catalyst may be characterized as follows:
1. A new element (the catalyst) can change surrounding element.
2. Existing urban elements of value are enhanced or transformed in positive ways. The new need not obliterate or devalue the old but can redeem it.
3. The catalytic reaction does not damage its context. To unleash a force is not enough. Its impact must be channeled.
4. A positive catalytic reaction should consider and understand its context.
5. Not all catalytic reaction is the same.
6. Catalytic design is strategic.
7. A product better than the sum of the ingredients is the goal of each catalytic reaction.
8. The catalyst need not be consumed in the process but can remain identifiable.

As a famous example of an urban catalyst, we are presented with Ghirardelli Square to Fisherman's Wharf area in San Francisco. Nowadays Fisherman's Wharf area is a popular area full of entertainment and shopping, Ghirardelli Square played a key role in Fisherman's Wharf. Before revitalization, Fisherman's Wharf was a rendezvous of industrial area and Fishery Quay. The reformation of the area could thus be divided into three stages. In the early 1960s an old Italian chocolate factory in a nonretail area was converted into a specialty shopping complex. Because of the richness and strength of the existing buildings and the talent of both the building and landscape architects, the past is preserved “in weaving a pattern of charming plazas, courtyards, and passages between buildings” (Ibid, 1989:p.14). In the second stage, the economic success of Ghirardelli Square recommended a parallel treatment for the Cannery where located two blocks away, it is a similar specialty center.

However the economic reaction is only one part of catalysis. Ghirardelli Square was also influenced by the form and character of the Cannery, as the outstanding design of the first project stimulated a second one. In the third stage, after Cannery was completed, as a natural consequence of market forces, the buildings along Beach Street between Cannery and Ghirardelli were redesigned and released. The interesting observation is that both of them affected the form, style and detail of the new buildings around them.
From this example we may assume that the catalyst reaction was already reached to the further level, not only social and economic, but also architectural. Moreover, it gave a new life in the whole area. And finally, the area of Fisherman's Wharf became one of most famous leisure-oriented entertainment place in San Francisco (Image 3-3).

Drawing from the example presented above, we can use a simplified figure to explain the process of catalyst reaction (Image3-4).
Firstly, Ghirardelli Square was redesigned by itself, then the Ghirardelli Square successfully influenced the Cannery, and the Cannery followed the Ghirardelli Square’s step and gained success. Consecutively, the Ghirardelli Square and Cannery interacted together and affected the area between the two areas, thus constituting a serial catalytic area (Ibid, 1989:p.xiv-xv).

**Urban Catalysts Theory in China**

Based on the research of urban catalyst theory in China, Professor Jin who is working in urban design research center in Harbin Institute of Technology stated that “new elements can promote the city to change and speed up the construction of urban development, that is to say, through the intervention of particular catalyst elements, triggering some kind of chain reaction, contributing to development of city construction and promoting the city steadily developing according to people’s will” (Jin, 2006).

In the study of the urban catalyst type and characteristics, depending on the different catalyst type in urban design, Professor Jin summarized as point catalyst, line catalyst and surface catalyst. By the international urban design programme of Bao’an new Center District in Shenzhen city, the catalytic strategy was elaborated in operation and application. Professor Jin put forward an assessment in urban catalytic strategy based on the effect of catalyst.
Based on urban design projects of rail transit station in the cities of Shanghai, Shenzhen and others, Professor Lu Jiwei (1998) from Tongji University recognized the importance of catalysis of rail transit station system in the development of urban regional system. He believed that the key approach to promote the regional intensification efficient use is achieving the integration of traffic on surface and underground which based on multi-functional and complementary space in the region created and ordered space line shaped after urban design (Lu, 1998).

In pursuit of protection of the authenticity of the ancient city and promotion of the urban development, senior town planner Jiang Zhaohui (2006) from China Urban Planning and Design Institute concluded that “protection, the development of the 'catalyst', as one of the ancient city protection ways to explore”. That entails the 'real old city' being a 'catalyst' which visitors can visit, but the old city is still original, the activities such as shopping, lodging, dining and folk activities can happen in the new city town. Thus, 'authenticity 'remains the main goal of the 'protection', but not the ‘tourism'. The new town can change at any time based on travel needs, while benefits from new town subsidies to ancient city protection. This urban catalyst strategy is the new thinking which make the same old elements as a catalyst, not implanted new elements. However, further exploration of the method of protection might later shade some light on the final conclusion.

**Conclusion**

In summary, the main function of the urban catalyst is to inspire and lead the construction of the city, and promote sustained, gradual development of urban structure. To introduce the urban catalyst concept in the revitalization of the historic urban quarter can be used to illustrate the impact of the originally independent urban development to the conservation of historic urban quarters. It is not only the impact on the surrounding environment from a single conservation project, but also a potential chain reaction of the project in historic urban quarters. In fact, this is a higher
level to reflect the issue of the revitalization of historic urban quarter, but also a manifestation of the role of the urban catalyst.

The revitalization and development of the historic district is a paradox complementary. If it says that the revitalization based on respect of the city culture is the basis, then a right update is an extension of the revitalization. It is the inheritance of the urban context and the hope of the revival of the historic urban quarter. The urban catalysts strategy can thus provide the possibility of a combination of two issues. The next chapter will focus on discussion of catalytic strategies based on the revitalization of the historic urban quarter.
CHAPTER 4  ANALYSIS OF THE TYPES OF CATALYSTS IN REVITALIZING HISTORIC URBAN QUARTERS

The revitalization of historic urban quarters contains two inevitable opposing processes: the revitalization and the rehabilitation of buildings and districts. The rehabilitation tries to adapt the consequences of urban economic structure, while the conservation seeks to restrict the changes to protect an historical building and an area’s character. As stated by Lynch (1972:p.39), “The management of change and the active use of remains for present and future purpose are preferable to an inflexible reverence for a sacrosanct past.” In fact, the physical form of historic urban quarter was changed inevitably, as an environment that cannot be changed invites its own destruction. We prefer a world that can be modified progressively against a background of valued remains, a world in which one can leave a personal mark alongside the marks of history (Tiesdell et al., 1996:p.166). Any alteration of building and urban fabric will change irretrievably their history forever, and this alteration will become one part of history as well. Therefore, a new heavy task for urban planners has become how to deal with this alteration and how to guide it to find a solution that may satisfy both revitalization and conservation.

Conjunction point of urban catalyst theory and historic urban quarters

The most important part in revitalization is to make sure that the protected object remains the same and the historical continuity will not be damaged after revitalization. The application of urban catalyst is just one effective way to motivate the historic urban quarter and continue its authenticity. More specifically, the conservation is the aim to the continuation of elements such as the meaningful historic buildings, traditional layout and traditional humanities style. At the same time, it also protects these elements from being ruined during the process of conservation.
Thus, the main purpose of urban catalyst theory is to stimulate active elements and affect the whole system. The task of introducing the urban catalyst to the historic urban quarter is to stimulate elements which will inactivate. The partial renovation of the historic urban quarter plays a role in catalytic reaction, effecting neighboring areas and resulting in a chain reaction, which may lead to the development of the whole region. The urban catalyst way not only leads to physical revitalization but also economy revitalization in historic urban quarters. Different interest groups such as the government, developers and public involved in the reorganization of the historic urban quarter, controlled and guided the follow-up stage, conduct future development trend of historic urban quarters.

**Principles and objectives for urban catalyst strategy in revitalizing the historic urban quarter**

The spirit of place—the genius loci (Norberg schultz)—is a historic urban quarter’s most important aesthetic attribute which is to be maintained. The continuity and development of the quarter’s genius loci is therefore one of the most important design considerations in a historic urban quarter (Tiesdell et al, 1996:p.167). Thus, the maintenance of the visual identity and continuity of a historic quarter’s physical character is critically dependent on the preservation and, where necessary, the rehabilitation of the quarter’s historic fabric wherever possible. As Gratz (1989:p.57) states, the key challenge is therefore to “preserve and restore the physical fabric without resorting to fake history and period pieces as the genuine maintains the continuity of history”.

The objective of catalytic strategy is to control urban fabric and reflect genius loci. It may also be described by four principles:

1. Preservation of urban fabric, most of historic districts follow this principle.

2. Reinforcing a fabric that has come undone, this principle is suitable for the physical destruction in historic urban quarters.
3. Repairing districts unable to give the original fabric back or partly damaged of urban fabric.

4. Creation of new format for districts, new order is energized all about districts and response to genius loci of original quarters (Image 4-1).

Characteristic of urban catalytic strategy in historic urban quarters

According to the description of urban catalyst theory, the characteristic of urban catalyst is diverse. Urban catalyst reflects the following characteristics in revitalizing historic urban quarters (Attoe & Logan, 1989:p.47):

1. In order to ensure a positive, desired, predictable catalytic reaction it is necessary to know the context and the genius loci of historic urban quarter, and consider if the new catalyst comprehensively matches the area or not. Each historic district has its own characteristic, urban design cannot assume uniformity.

2. Introduction of catalysts into historic urban quarters will change the existing elements, whether economic (investments beget investments), or physical (conduction of buildings). The potential of a building to influence other buildings, to lead urban design, is enormous.
3. Urban catalyst enhances or transforms existing elements of historic urban quarters to the positive way, although the catalytic reaction will change the existing elements and it is not needed to destroy or belittle the value of element during the reaction.

4. The catalytic reaction is contained. The influence should be conformed the context of historic urban quarters, yet not ruin the fabric of districts and genius loci. It means that unleashing a force is not enough and its impact must be channeled.

5. The influence of catalytic reactions is not predetermined, as no single formula can be specified for all historic urban quarters. It should take measures adapted to local conditions in order to forecast the result.

6. Catalytic design is strategic. Revitalizing historic urban quarter occurs not from simple intervention but through careful calculation to influence future of urban quarters step by step. It includes economic and functional strategy.

7. Each catalytic reaction is based on the revival of the entire historic urban quarters, rather than a single building renovation. Instead of historic quarters of isolated pieces, imagine historic quarters as a whole.

8. Catalyst itself should be consistent with genius loci of historic urban quarters whatever it is identifiable or not. Its identity need not be sacrificed when it becomes part of revitalization of historic urban quarters and continue the value of historical culture.

**The scope of usage of the urban catalyst strategy in revitalizing historic urban quarters**

The revitalization of historic urban quarters involves both renewal of the physical fabric and the active economic use of buildings and spaces. Accordingly, there is a need for both physical and economic revitalization. For example, a cosmetic or “physical” revitalization may be a short-term strategy intended to induce a deeper “economic” revitalization in the longer
term. A physical revitalization can result in an attractive, well-maintained public realm. However, in the longer term, economic revitalization is required because ultimately it is the productive utilization of the private realm which pays for the maintenance of the public realm (Tiesdell et al., 1996:p.20).

The presence of historic urban quarters is a mixed state as the quarters identify and characterize the city. But the problem of different historic urban quarters differs. Due to the time and space changing, the conditions of historic urban quarters are not able to fulfill developing needs or requirements. That would result in a mismatch or conflict between the capability of building/. This mismatch, which is named as “obsolescence”, leads such an area deep into the process of deterioration and decay (Doratli, 2007).

As is discussed by Tiesdell et al. (1996), obsolescence may arise in different forms (Image 4-2). According to dimensions of obsolescence, the revitalization of historic urban quarters should try to repair the “obsolescence” and extend the life of historic urban quarters. In the UK Department of the Environment (1987) guidance for conservation areas declares the policy imperative is “to preserve their character, but not at the cost of setting them apart; they must be seen as part of the living and working community”. Based on the different obsolescence, the urban catalysts show different corresponding strategy.
Urban catalyst strategy for physical or structural obsolescence

Obsolescence arises from the material or structural degradation of buildings. This situation appears as its physical structure deterioration through the influence of time. It may also be caused from an unpredictable damage from natural force. All the same time, the unprofessional maintenance may affect the functional use. Obsolescence as a rule occurs gradually. In such situation, the catalytic strategy could borrow the method from Fitch (1990:46-47). With respect of historical buildings, Fitch suggests a useful classification of "levels of intervention according to a scale of increasing radicality". According to him, these are preservation, restoration, refurbishment, reconsititution, adaptive use, reconstruction and replication (Image 4-3).

Preservation and restoration are generally only of major importance when dealing with buildings of exceptional architectural or historical quality. It is suitable to “Museum way’s" conservation in historical area. However, most of buildings that are considered in historic urban quarter in the thesis do not come into this category. Reconstitution and replication have occurred rarely, and possess a

**PRESERVATION**
The maintenance of the artefact in its current physical condition. ‘Nothing is added to or subtracted from the aesthetic corpus of the artifact.’

**RESTORATION**
The process of returning the artefact to the physical condition in which it would have been at some previous stage of its morphological development.

**REFURBISHMENT (Conservation and consolidation)**
The physical intervention in the actual fabric of the buildings to ensure the continued performance of its structure and fabric.

**RECONSTITUTION**
The piece-by-piece reassembly of a building, either in situ or on a new site.

**CONVERSION (Adaptive use)**
The adaptation of a building to a new function or use.

**RECONSTRUCTION**
The re-creation of vanished buildings on their original site

**REPLICATION**
The construction of an exact copy of an existing building

Image 4-3: levels of intervention

Source: (Fitch, 1990)
notion of “fake antiques” and will thus be out of our consideration. Refurbishment is highly targeted to physical obsolescence, and satisfied the double demands of conservation and revision. Reconstitution could divide to partial and integral reconstitution. It can reconstitute integrally important historical architecture in other place. Sometime partial reconstitution of old buildings with historical value occurs in combinations with partial transformation. Thus, a new character may be added after such combination, however the traditional and historical values will not be lost. The “adaptive use” targeted to the functional obsolescence, I am going discuss below.

Urban catalyst strategy for functional obsolescence

Functional obsolescence may also happen due to the functional qualities of buildings or whole quarters. The functional obsolescence may be from the buildings themselves. Nowadays the layout of the building is no longer suitable for the features that are designed in the past, or the user to change the level of demand or standard to original function. The functional obsolescence may also occurs from the reasons of districts, inadequacy can due to external reason on which the function of the building depends: for instance, there may be insufficient parking space on site or in the surrounding streets, or difficulties of access on account of traffic jam or narrow street, Therefore, keeping historic street’s fabric restrain its ability to cater for contemporary functional requirements.

It needs to distinct the functional obsolescence from buildings only for current use or any situation. For the first situation, the current function may not suit to keep the vitality of historic urban quarters, but the second situation will lead to the demolition of old buildings and redevelopment of the whole area. But it occurs rare to see any buildings totally out of function. Thus, it is necessary to consider the possibility of transformation of existing buildings in order to accommodate them into the new function.
The purpose of urban catalyst strategy is thus to coordinate the contradiction between modern needs and preserving the service of the functional obsolescence area. During the catalytic urban design, establishment of an exemplary catalyst is crucial. Before to promote a comprehensive reform of quarters, trying to regain self-confidence, or create a new self-confidence of the local function it might be necessary to stabilize or revitalize the competitive position of areas in a robust economy, so that the whole area may have the potential for functional update.

The catalyst strategy should take the whole historic quarter into account and the model catalytic strategy should thus be able to guide the improvement of the whole area, rather than its isolated parts. This also means that it may be possible to have more investment or more interventions before started. When and if the model catalyst becomes successful, it should stimulate the whole area for development. Which, finally, may cause a series of catalytic reactions that revitalize the whole quarter.

**Urban catalyst strategy for locational obsolescence**

Locational obsolescence is on account of the functional activity within the area. When buildings were originally built in the area, its location had been determined in terms of the degree of correlation with the function of the peripheral cities. But over time the location may have become outdated for the activities which the building was initially constructed for. Thus, locational obsolescence occurs due to the fixity of a particular location relative to changes in the wider pattern of accessibility and labor costs (Tiesdell et al., 1996:25). For example, the housing area, which in the past was close to an old commerce center, has lost its locational dominance due to the rise of new commerce center instead of old one. A distinguishing feature of locational obsolescence is losing user step by step, the user will choose the area which has location advantages and the original area will decay.
Locational obsolescence may thus be characterized as an attribute of external changes of the area, but the urban catalytic strategy could alter the internal part to correspond this changing. Firstly, with the functional leading. It entails guiding by the strategic adjustment of internal functions of the area, prompting an activity to implement the big influence in the area, in order to create a new locational advantage. Thus, the quarter may become an attractive place because of such unique activities and the goal of revitalization will be achieved after the catalytic action. Secondly, we are to consider the physical strengthening. By strengthening the physical function in the area, or creating an attractive spatial form to stimulate the user, may as an end result attract more tourists. Another example might be to strengthen the interior characteristic of industrial buildings to attract artists to have interests to transform the physical space.

**Urban catalyst strategy for image obsolescence**

Image obsolescence is a product of the perception of the quarter’s image. This perception is a value judgment and lack of a related substance. The image is not only the exterior of a building or an area, as it may also possess a perception of some function. For example, people usually get negative perception of an industrial area. Therefore, an important element of catalytic strategy has been a deliberate image reconstruction. Some area may only be in need of rehabilitation of exteriors. However, the financial support should follow the rehabilitation. During the image design, may be associated with the implantation of the new function or completely functional reorganization, not just the physical image of rehabilitation.

**Urban catalyst strategy for official or legal obsolescence**

Legal obsolescence is related to the functional and physical dimensions and occurs, when a public agency determines certain minimum standards of functionality, the introduction of new standards in health and safety, fire or building controls could make the building obsolete (Tiesdell et al., 1996: p.24). The official obsolescence could occur from the conflict
between the official schemes and existed areas. Such as an area is officially declared a clearance area for road building, road widening or comprehensive redevelopment by the local public planning department. From the announcement of project to the implementation of project, the area may decline. The problem is the area probable destroyed after blind and wrong value judgment. The extreme way to deal with legal obsolescence is demolition and reconstruction of area and maximum the value in use.

As Uhlman (1976:p.6) describes, when the public sector invests into the external environment in a city, this demonstrates confidence to the area. When official obsolescence occurs, the government can adopt the urban catalyst strategy to remedy it. The first step of strategy is to take the confidence back through the improvement of the public area.

**Urban catalyst strategy for economic obsolescence**

The social value of historic urban quarters is intangible, the loss or damage of them will result in the loss of social value. This social value derived from the aesthetic value in a variety of buildings or districts. This social value also comes from the diversity of architecture and environment; and from its heritage values and the continuity of cultural memory, this social value is really difficult to put a monetary value on, then it is poorly handed over in the price mechanism of an unrestrained market. It is rarely arising a market what has become “public good”, the unrestrained market fails to protect these districts which contain social value. Therefore, the historic urban quarter which been underestimated social value possesses economic obsolescence. There are two approaches to deal with this underestimated value: firstly, prohibition forcedly. For example, the buildings or areas which have been threaten will be protected directly from government, but this requires the historical characteristic of areas or buildings reach the national standards. The second approach is value guidance. By some form of intervention from government to increase the effective price paid for that activity, or to subsidize more preferable
alternate courses of action. (Tiesdell et al., 1996:p.27). Obviously, the second one is better cause it produces an optimal “market-based” resource allocation and is therefore economically more efficient.

**Urban catalyst strategy for relative obsolescence**

It is important to point out that obsolescence is not an absolute concept but always relative to other buildings or areas, because only few buildings have any potential variability. Thus, a historic district rarely reaches an absolute completely obsolete, at best, is more or less obsolete than other areas, the catalyst strategy will depend on the specific issues and more targeted.

**Conclusion**

As mentioned above, the gradual decline of a historic urban quarter often mixes several kinds of obsolescence. Besides, the urban catalyst design excludes the possibility to only consider one aspect. In summary, corresponding to a variety of obsolescence I discussed before, the renewal of physical aspect may be a necessary condition, but not a sufficient one for revitalization of historic district. Physical revitalization of buildings will help people living in this area to improve their confidence. However, in order to maintain this confidence, economic revitalization is needed, as well. In order to maintain a more sustainable district’s revitalization, the building assets should be fully utilized. Improving building utilization is referring to the adjustment to the building function. Firstly, it’s changing function and carrying out the functional renewal. Secondly, maintenance of the current function need to be operated more efficiently and profitably, and in turn may lead to improvement of the function of whole districts. Thirdly, since the district’s function is diverse, the functional and structural improvement are to be implemented in a way to support the existing economic basis. So functional structure’s adjustment and replacement or restructuring may become a fundamental solution for revitalization in historical areas. This shows that
the combination of physical revitalization and functional revitalization will be an important catalyst strategy in historic urban quarters.

CHAPTER 5 THE PROVEN INGREDIENTS OF URBAN CATALYSTS IN HISTORIC URBAN QUARTERS

The urban catalyst's ingredient may also be characterized as an "available ingredient which is essential in building the catalytic reaction in the city". These elements are often combined and a successful catalyst strategy usually includes integration of several elements, due to the fact that a single element can only produce one-sided and limited effectiveness. The elements I have discussed derive from Attoe & Logan (1989) as well as my own conclusions with the contemporary situation in China.

The physical ingredient of urban catalysts in revitalizing historic urban quarters

<table>
<thead>
<tr>
<th>Form</th>
<th>Catalyst type</th>
<th>Available ingredient</th>
<th>Description of the catalyst</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ground plaza</td>
<td>A clear public space, can gather people easily, an important place for public events</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sunken plaza</td>
<td>Integrates surrounding buildings and urban facilities (such as a subway) in the plaza, the underground space form a rich level of urban space</td>
<td></td>
</tr>
</tbody>
</table>

Image 5-1 physical ingredient of urban catalysts  Source: made by author
<table>
<thead>
<tr>
<th>Public Space</th>
<th>Open Space</th>
<th>Second platform</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Space</td>
<td>Open Space</td>
<td>Enhances the pedestrian space, completely separates the pedestrian and vehicular traffic, giving a sense of security to people, and ensuring convenience to people in engaging into various activities</td>
</tr>
<tr>
<td>Nature in cities</td>
<td></td>
<td>Natural areas in city centers have been justified on the grounds of health and aesthetics, but it can also be argued for on social and economic grounds. Park or boulevard frontage increases land value; green spaces attract people and cause them to linger.</td>
</tr>
<tr>
<td>Park</td>
<td></td>
<td>Park can enhance the environment, while the park itself can take advantage of historical resources</td>
</tr>
<tr>
<td>Courtyard</td>
<td></td>
<td>Semi-open space, comfortable human dimension, having potential catalyst with surrounding buildings</td>
</tr>
<tr>
<td>River walk</td>
<td></td>
<td>Walk side with beautiful landscape. River walk development, in turn, is supporting projects on abutting district’s revitalization.</td>
</tr>
<tr>
<td>Promenade</td>
<td></td>
<td>Pedestrian areas along grand boulevards and linear parks along streets change the act of getting from one place to another: these links between areas of activity themselves become destinations. It is usually full of vivid activities.</td>
</tr>
<tr>
<td>City stoop</td>
<td></td>
<td>A stoop invites large numbers of people to observe the passing scene, it is an urban landscape by itself.</td>
</tr>
<tr>
<td>Boulevard</td>
<td></td>
<td>Wide boulevards can carry more traffic than typical streets. They are more pleasant to experience because of their planted median strips or verges or the tone of structures fronting them.</td>
</tr>
<tr>
<td>Public Space</td>
<td>Street</td>
<td>Details</td>
</tr>
<tr>
<td>--------------</td>
<td>--------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Main street</td>
<td>Main street is a major traffic artery, but it is also a civic place, which provides convenient but unobtrusive parking, mixes enough vehicles with pedestrians and ensures a feeling of street activity without jeopardizing safety.</td>
<td></td>
</tr>
<tr>
<td>Grid Walking Street</td>
<td>Street grid system can enhance the accessibility and pleasure of walking street, people have a diversified experience from appropriate scale of pedestrian and decorative space</td>
<td></td>
</tr>
<tr>
<td>Transit mall</td>
<td>Combined with public transit, it proves that retailing, vehicles, and pedestrians could mix profitably.</td>
<td></td>
</tr>
<tr>
<td>Pedestrian mall</td>
<td>Commerce attracts more people, walkable street gives a safe and comfortable feeling, small and exquisite shops form an interesting street space.</td>
<td></td>
</tr>
<tr>
<td>Underground Commercial street</td>
<td>Stimulates economic vitality, at the same time do not interfere street protection with the ground historical elements, the combination of the underground transport system node can form a highly efficient city system.</td>
<td></td>
</tr>
<tr>
<td>Alley</td>
<td>Alleys add variety to the urban scene for pedestrians; they also have the potential for uses not feasible on more costly street frontage.</td>
<td></td>
</tr>
<tr>
<td>Skywalk</td>
<td>Street grid with a pedestrian network that typically makes connections at mid-block and have been added to an existing buildings, It must be designed and access to them located to ensure continued use of the street level.</td>
<td></td>
</tr>
<tr>
<td>Public Space</td>
<td>Undefined space</td>
<td>Colonnade</td>
</tr>
<tr>
<td>--------------</td>
<td>-----------------</td>
<td>-----------</td>
</tr>
<tr>
<td></td>
<td>Arcade</td>
<td>Arcade</td>
</tr>
<tr>
<td></td>
<td>Corporate Atrium</td>
<td>Corporate Atrium</td>
</tr>
<tr>
<td></td>
<td>Interior city room</td>
<td>Interior city room</td>
</tr>
<tr>
<td></td>
<td>Hierarchy of movement</td>
<td>Hierarchy of movement</td>
</tr>
<tr>
<td></td>
<td>Microcosm</td>
<td>Microcosm</td>
</tr>
</tbody>
</table>
The realm is a peripheral area that is too often forgotten. Between the focal elements lie realms of less precise character that nonetheless have immense potential. Such as a small pedestrian passages.

<table>
<thead>
<tr>
<th>Building Type</th>
<th>Example</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Buildings</td>
<td>Museum</td>
<td>Museum is full of cultural value, response the spirit of place when they implant to the historic urban quarters.</td>
</tr>
<tr>
<td>New Buildings</td>
<td>Opera</td>
<td>Full of cultural property, when a new opera is built, it is not only a functional adding, but also a landmark.</td>
</tr>
<tr>
<td>New Buildings</td>
<td>Commercial buildings</td>
<td>Utilizing commerce to attract more people, enhancing the economic value of historic urban quarters</td>
</tr>
<tr>
<td>Renovated Buildings</td>
<td>Municipal buildings</td>
<td>Municipal buildings always provide a serious feeling, they often have a big plaza in front which provides a big space for gathering and relaxing.</td>
</tr>
<tr>
<td>Renovated Buildings</td>
<td>Hotel</td>
<td>The hotel buildings is one of direct way to attract the tourists, it is good at getting attention if the buildings match to the spirit of place in the districts.</td>
</tr>
<tr>
<td>Renovated Buildings</td>
<td>Museum reformation</td>
<td>Reforming historical buildings to the different museum is efficient easily becomes an urban catalyst because of the characteristic of buildings and the culture of museum.</td>
</tr>
<tr>
<td>Building</td>
<td>Renovated Buildings</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>-------------------</td>
<td></td>
</tr>
<tr>
<td><strong>Industrial building reformation</strong></td>
<td>Remnants from industrial period are a big portion in urban renewal. The architectural space could reuse after function replacement or renovation.</td>
<td></td>
</tr>
<tr>
<td><strong>Housing building reformation</strong></td>
<td>Many old housing buildings remain in the historic urban quarter, and the renovated housing area can not tear down and build a new group. It should keep the social structure and life environment, to continue the historical genius loci.</td>
<td></td>
</tr>
<tr>
<td><strong>Commercial building reformation</strong></td>
<td>The reformation and forth putting of commercial buildings, achieve new economic vitality back.</td>
<td></td>
</tr>
<tr>
<td><strong>Station reformation</strong></td>
<td>The station is a crowd gathering place and has a huge potential to be a catalyst, stimulating the surrounding area to revitalization.</td>
<td></td>
</tr>
<tr>
<td><strong>Port area reformation</strong></td>
<td>The port area by the seaside is a potential catalyst for coastal city. After industrial decay, this area has a chance to regain new values.</td>
<td></td>
</tr>
<tr>
<td><strong>Architectural Heritage</strong></td>
<td>Architectural heritage can be reused and developed, the new architecture plus the architectural heritage will give a strong contrast to people. It is also a combination of tourism and culture.</td>
<td></td>
</tr>
<tr>
<td>Structures</td>
<td>Meaningful and historical buildings</td>
<td>The building itself is attractive without renovation. It stimulates the whole area and the surroundings.</td>
</tr>
<tr>
<td>---------------------</td>
<td>-------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Industrial structures</td>
<td>Industrial structures have a strong industrial identity and history and may serve as a special ingredient which stimulates the district.</td>
<td></td>
</tr>
<tr>
<td>Monument</td>
<td>Monument is intrinsic to a city’s identity and landmarks, identifying districts and helping people stay oriented.</td>
<td></td>
</tr>
<tr>
<td>Fountain</td>
<td>They are not only ornaments but also parts of a larger urban design strategy.</td>
<td></td>
</tr>
<tr>
<td>Sculpture</td>
<td>The sculpture is a cultural symbol, rendering the atmosphere in districts.</td>
<td></td>
</tr>
<tr>
<td>Accessorial building</td>
<td>Accessorial buildings could be an old chair, an old street light, a trash bin. It is meant to recall back some memories from the past.</td>
<td></td>
</tr>
<tr>
<td>Metro station</td>
<td>One of most efficient public transportation. Its distributional role can also bring a valuable potential to the surrounding area. It is a strong urban catalyst.</td>
<td></td>
</tr>
<tr>
<td>Bridge</td>
<td>It is an important urban element for connecting cities, enhancing the urban</td>
<td></td>
</tr>
</tbody>
</table>
reachability and identity.

| Parking structure | Parking structures need to be designed as positive ingredients of the urban fabric and experience. A useful approach is to be applied in order to mix parking with retail businesses, offices, housing, parks, and so forth. |

The non-physical ingredient of urban catalysts in revitalizing historic urban quarters

Non-physical ingredients always integrate with physical ingredients to form a real urban catalyst. The non-physical ingredient may not exist on its own alone. Due to the combination of a variety of non-physical and physical ingredients, diversified characteristic of urban catalysts may be formed.

<table>
<thead>
<tr>
<th>Form</th>
<th>Catalyst type</th>
<th>Available ingredient</th>
<th>Description of the catalyst</th>
</tr>
</thead>
<tbody>
<tr>
<td>Image 5-2</td>
<td>non-physical ingredient</td>
<td>Source made by author</td>
<td></td>
</tr>
</tbody>
</table>

<p>| Implantation of new function | Implantation of cultural function | Implanting new function in accordance with the original function of districts and stimulating the excitation point. The cultural function combines easily with the spirit of place. |</p>
<table>
<thead>
<tr>
<th>Integrating and renewal of urban function</th>
<th>Implantation of commercial function</th>
<th>Integration commercial function and original function in historic area could bring new economic vitality and tourism potential.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Replacement of function</td>
<td>Museum mode of replacement</td>
<td>The original function of buildings had been completely abolished instead of museum’s function; it can show the value and character of buildings.</td>
</tr>
<tr>
<td>Replacement of function</td>
<td>Industry replacement to commerce</td>
<td>Because of functional and locational obsolescence of industrial buildings, it was hard to maintain the industrial function, but it is still valuable of internal space in industrial buildings, so the replacing function will revive the historic industrial quarter.</td>
</tr>
<tr>
<td>Replacement of function</td>
<td>Industry replacement to housing</td>
<td>Some industrial heritage get acquired by building groups and the best way is to transform them into to mix-functional area, thus ensuring the maintenance of its vitality and values.</td>
</tr>
<tr>
<td>Replacement of function</td>
<td>Industry replacement to culture</td>
<td></td>
</tr>
<tr>
<td>Replacement of function</td>
<td>Industry replacement to office</td>
<td></td>
</tr>
<tr>
<td>Replacement of function</td>
<td>Industry replacement to multi-function use</td>
<td></td>
</tr>
</tbody>
</table>
The old housing area always faced a physical and functional obsolescence problems, replacing housing function to commercial function may totally revive the whole area.

**Function mixture**

Under the premise of preserving original function implementing mix-function can integrate the whole area together, enhancing the diversity of personal experience.

<table>
<thead>
<tr>
<th>City development policy</th>
<th>Housing replacement to commerce</th>
<th>Controlling urban catalysis without repressing it depends on a thoughtful choice of concepts. Is a new use in the districts.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Conceptual control</td>
<td>Some of urban development policy is proposed with a premise that particular building elements of environmental and historical appropriateness should become a basis for urban architecture in districts. The element most frequently cited was the arcade, or colonnade, or loggia.</td>
</tr>
<tr>
<td></td>
<td>Typological control</td>
<td>Normative standards for design control typically become established from many aspects. Such as the maximum height or bulk of buildings, the percentage of openings in walls, the dimensions of setbacks, floor-area ratios, and so forth.</td>
</tr>
<tr>
<td></td>
<td>Norms control</td>
<td>More often exemplars and types are blended to create generic models for controlling urban patterns and building forms. These controlling models which mix specificity and generality, often have become the basis of design</td>
</tr>
</tbody>
</table>
## Guiding policy guidelines

| Encouragement | Catalytic role should be encouraged from government or local investors, it is important to show further direction of district development. |

### City events

- World Expo, Olympic Games and other big city events could be an important urban catalyst in the city.

### Folk activities

- The historic district is often accompanied by historical traditions and cultural heritage, including folk activities, as a stimulant to the vitality of urban catalyst

## Conclusion

This chapter studied the characteristic of urban catalyst in revitalizing the historic urban quarter. From the figure posed above, we can see the urban catalysts are diverse in both space and buildings. It is also important to point out that the catalytic reaction does not only happen in physical form, but it also occurs in non-physical one. Urban catalysts which were chosen should suit the quarters which maintain and inherit the unique urban context and spirit of place. Nowadays the lack of connectivity between urban developments and their contexts is a major problem in contemporary development (Bohannon, 2004).
Urban catalysts could be stirred by the gentle that revives historic urban quarters. The urban catalyst theory application depends on comprehensive urban analysis to solve the problem of physical, structural, functional, locational, image, official, economic obsolescence. Urban catalysts should bring about advantage and response dimensional conditions that could enhance the gainful development. Also catalysts should be able to maintain and carry forward the districts a spirit of place.

Historic urban quarters have unique attributes, such as the meaningful architecture or traditional urban patterns that can serve as existing elements for revitalization. Bohannon (2004) pointed out that these urban elements can serve as conceptual and structural models for future development scenarios in the city. For example, a city like Gotheborg, that has a strong industrial culture background, can use its industrial culture as a catalytic concept to redevelop some area and enrich the industrial culture. At the same time, this redevelopment may serve as an educational function and introduce to the city’s industrial past.

In next chapter, the author will focus on the case study in order to examine the urban catalyst theory in revializing historic urban quarters by analyzing and evaluating application of the theory.
CHAPTER 6 CASE STUDY----SHANGHAI “XINTIANDI” AND “TIANZIFANG” IN LUWAN DISTRICT

Image 6-1: The location of Luwan district
Source: https://zh.wikipedia.org/wiki/

Image 6-2: The relation of Tianzifang, Xintiandi, Luwan district and transportation
Source: Made by author
Luwan District (image 6-1) was a district located in central Shanghai, China until its merger with Huangpu District in June 2011. Since the two places of case study is in Luwan district and there is no case related to Huangpu District, I will explore Luwan District in my thesis. Luwan District covered an area of 8.05 km² and had a population of 350,000 as of 2001. It was located directly south of People's Square. The northern part of Luwan included one of the best sections of Huaihai Road, famous for its international fashion shops and high-class restaurants. In this area, most important six metro lines go through it and connect to the main transportation and economic circles (Image 6-2).

Luwan area was a part of the old French Concession area, one of the most prestigious sections of the city. It was famous for its boulevards. The plane trees lining the main streets were imported from France over 100 years ago. The district included the historical residences of celebrities, such as Sun Yat-sen, Mao Zedong, Zhou Enlai and others (“Luwan district”).

Before digging into the case study, it is important to introduce the concept of ‘lilong’ or ‘longtang’ as the form of Xintiandi and Tianzifang occupy this form. ‘Longtang’ is a traditional urban alley-community in Shanghai. "Long" means alley or lane and "tang" parlor or hall. It sometimes called "lilong" and is often
indicated by alley addresses. The Shanghai longtang is loosely equivalent to the hutong in Beijing. Therefore, Shanghai’s longtang can either refer to the lane that connects the houses, or a group of houses connected by the lane. Thus, all houses are facing the lanes and lanes become the public space used by all residents (Image 6-3).

The background of Xintiandi Case

Xintiandi is one part of replanning project of Taipingqiao area in northeast Luwan. Taipingqiao area, with easy access to transportation facilities and favorable geographic conditions, is close to famous commercial streets, Middle Huaihai Road and Tibet Road. Xintiandi is one of hottest spots in this district even in the whole Shanghai (Image 6-4). This diapidated old residential area nowadays becomes one of most vibrant and fashionable areas in Shanghai with restaurants, businesses, entertainment and cultural consumption sites after 1.3 billion yuan investment and a new regeneration. It is reported by media and concerned mightily since 2000 (Zhang, 2005: p.114).

Xitiandi is the first stage of Taipingqiao reconstruction project, is located in South of Huaihaizhong road and close to two main metro stops, Huaihaizhong road stop and South huangpi road stop. It is also an intersection of high way. The whole Taipingqiao area covers three hectares and is divided into four plots. Xintiandi takes two plots with old lanes and garden villa which came from 1920s and 1930s. 2300 lower class residents which were thus crowed into two narrow districts until 1998, which was the intermediate area of rich and poverty. The area which the project located is full of old lanes which has material aging, infrastructure, municipal facilities and greenary lacking, it belongs to Shanghai urban transformation range.
The developer Rui’an Group saw the potential value and appreciation of old historical buildings in this project because of its geographical location, history and culture. Therefore the government, the designers, and many others put effort into it and carried out on the commercialized rehabilitation and development of the area.

**The key of revival strategy------Public space with functional renewal as catalysts**

Xintiaodi, which implanted the public space with functional renewal effect the whole Taipingqiao area, it provoked the new and intense catalysis in the old lanes.

**The obsolescence of xintiandi area**

From the historical perspective, the obsolescence in Xintiandi was caused by the increasing population. Irrational use for living space led to physical obsolescence. Due to the unauthorized structures from local residents, it also acquired image obsolescence. The infrastructure, municipal facilities and lack of greenery thus led to its

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Image 6-6: the perservation and demolition plan of Xintiandi buildings
Source: (Hu, 2003)

Image 6-5: Life in Shanghai lanes in the past
Source: http://ywg1933osh.lafeng.net
functional obsolescence. Simultaneously, the location of the area possesses a potential value, thus the economic obsolescence came out from the contrast (Image 6-5).

The process of Xintiandi’s catalytic reaction

The design concept of Xintiandi was the following: keeping Shikumen houses (which is a traditional Shanghainese architectural style) and combining them with Western and Chinese elements in turn giving the new commercial value to it. Through the functional renewal, implant new function with commercial, leisure, restaurant, entertainment and culture to the residential function, while removed some low valuable buildings and illegal structures selectively, embedded in the new architectural elements with modern style contrasts with the old buildings combine together to form an linear and rhythmic public spaces. It can be seen from the image, where the purple part represents the new buildings, the violet part constitutes reconstructed buildings and the yellow part marks reserved buildings, whilst the red part serves as relics (Image 6-6).

During the Xintiandi project, the initial objective was to build a urban tourist attraction with historical and cultural feature in the centre of Shanghai. Later, however, the target changed into the international communicating place.

Since its opening in 2000, Xintiandi, as a part of Taipingqiao reconstruction project, molded brand effect successfully, driven up the price of the estate around the area, the the prices got several times higher than before, it also shows that Xintiandi is a great Xintiandi economic catalyst in Taipingqiao area (Image 6-7).
The analysis of Xintiandi as a urban catalyst------functional renewal

In my opinion, the catalytic reaction of Xintiandi relies on a number of elements. It can be summed up as implantation of new functions and public space.
The lifestyle in Shanghai lanes can never be replaced or disappeared after reconstituted, as Xintiandi development continues it. In amount of discussion, there is one opinion show that Xintiandi is not original Shikumen anymore. This is a fact. Xintiandi Project never was a historical preservation project, it is a commercial development under traditional architectural preservation.

The new function and the lifestyle is based on the urban needs, as may be seen from the image of a new function in Xintiandi (Image 6-8). The red part is commercial and cultural area, the darker read part is the leisure area, the orange part is exhibition and office use, the green part is culture or art preservation, the violet one is the service part, the light green demonstrates shops and cinema area, while yellow part correlates with the commercial complex and entertainment. This constitutes an urban namecard of the Shanghai city with international standard, as well as combines the architecture with the social status. This inspired a lot of tourists and citizens to follow the consumption under social needs because of their curiosity, dream and vanity. The value of function renewal of Xintiandi is to reproduce the new Shanghai lifestyle, explore the urban life experience in contemporary group. Therefore, this becomes the source of Xintiandi catalytic reaction (Image 6-9).

Image 6-8: New function zoning plan of Xintiandi

Source: (Lu 2004, p.317)
The analysis of Xintiandi as a urban catalyst------ Implantation of public space

The Xintiandi catalytic reaction not only shows from functional renewal, but also from physical space, cause the alteration of lifestyle need happen in the physical space. From the image we can see the diverging spatial texture after reconstruction (Image 6-10).

In Xintiandi area, the original housing structure, called ‘Waipulilei’ is quite special (Luo, 2002). The ‘Waipulilei’ (Image 6-11) means that the buildings close to the main lanes will become shops for commercial or service use. This is more valuable and efficient, due to the convience and service provided for the residents on daily basis. At the same time, everyone can go through from city streets to these shops, and the rest of buildings are housing area. The whole Shikumen residence area is connected by main lanes and sub-lanes. From the spatial structure, the housing area is closed to outside. There is only one main lane connecting the urban street. Besides, the internal road system is more narrow and walkable and it can not go through to the urban streets. This kind of neighborhood has obvious characteristic. The surrounding commerical space becomes the interface open to the outside, however the area doesn not connect to the housing area.
inside, as it only cover the outside of the housing area. Moreover, the passages of commercial area separate to the internal streets of housing area. In fact, these commercial area becomes a protective barrier for residents who live inside. The streets on the main lanes have a traditional prosperity but the internal housing area is private. Most social activities gathered on main lane streets outside of the housing area, the internal space of housing area is semi-open space, the function of main lanes leads to internal transportation, but the sub-lanes are as a result closer to residentia daily life. Their activities may range from eating, enjoying the outdoors, playing chess, spending time with children, etc. It composed many small neighborhoods of several families with semi-private space in the one big neighborhood (Image 6-12).

Although most of buildings in this area are preserved, the core part is not main lanes anymore, it becomes the square or expanded walking streets, the buildings surround the square or walking street similar to the western urban space. From the spatial perspective, it keeps the structure of main lane and sub-lanes. But the main lanes are as a result of that changed to urban walking streets. However, from the human gathering perspective, central aggregation and high density use introduce new features, as all activities are oriented inward, around the square surrounded by old buildings or walking streets in the lanes, the social activities from beside the main lanes turn to inside. The contemporary main lanes are not as lively as they were in the past, as most citizens or tourists were attracted to the space of sub-lanes. That is to say, the real urban public space change from original main lane streets to the walking street or square in the lanes, the main lane street in the past becomes a main road for cars, it is no connection to internal activities, and therefore the public space is implanted in this case. It demolished some buildings to open the lanes, and let the new public space into the lanes inside. Thus, this kind of public space broke the original internal neighborhood and brought more activities into the neighborhood, thus achieving revitalization of the area. Since all large
facilities are built in consumer space and organized inside of the square, so the whole neighborhood's economic value also completely upside down.

The evaluation of Xintiandi project as a urban catalyst---“top-down”

The Xintiandi redevelopment was an international project. The urban renewal is considered one of the first examples of the placemaking approach in China (“Xintiandi redevelopment”). It is a typical urban catalyst project plays a positive role. It successfully preserved historical cultural districts in the area. Thus the function of Shikumen was changed from residential use to commercial, bringing the Shanghai lifestyle and traditional architecture to the international standard. It becomes an urban tourist attraction with Shanghai history and culture, at the same time contributing with social and economic benefits. It is thus possible to conclude with the following three points:

1. Preserved and renovated historical sites. In order to protect the historical site, the Xintiandi project designer found the right point through historical sites and modern architecture and let them complement each other. As a result, the whole area becomes a catalyst stimulating the surrounding area as well as the whole city.

2. Brought the economic value. Market economy determines that this historical catalytic project created a new historical environment and enhanced its additional commercial value. Xintiandi is one of redevelopment project in Taipingqiao area, as emphasized by investors. From the perspective of the land, all land of the area was made over.

3. Xintiandi Model appeared. Xintiandi Mode bandwagon swept across the country. There are also numerous similar projects coming out in other big cities.
The Xintiandi case could called “top-down” mode, certain gaps are however evident in the Xintiandi project. This also reflects the lack of urban catalyst mode.

1. The loss of intangible culture and value. From the tangible preservation perspective, Xintiandi played a positive role, but intangible culture and value especially the traditional lifestyle in Shanghai lanes disappeared. The real residents had been moved before the project started, so the real life in Shanghai lanes did not exist. The basic preservation of residential historical districts is physical environmental and social development progressed in coordination. This is also a source for vitality and charm in historical district. But as it was mentioned at the beginning of the case study, Xintiandi project is not a historical preservation project, it is a commercial development project under historcial protection. The key point here is the economic value. Where is no real social residential activities in historical districts, there is no real historical and cultural heritage inherited. The Xintiandi construction displaced 3,500 Shanghainese families (“Xintiandi Family move”). Xintiandi catalytic reaction is thus not a universal mode. One may witness passion and dream, tradition and trend here, but there is no story on this stage for local residents. They have new spatial texture and lifestyle at the expenses of traditional life who are living here from generation to generation (Sun, 2007)

2. Lack of complete value analysis. Although Xintiandi project promotes the value of the whole region, the analysis of social benefits and social intangible costs is still lacking. From this perspective, the catalytic project may bring a negative effect. Some buildings might lose their original value after functional renewal, the local residents who moved out from the area may face a loss of intangible value, as they are the ‘living fossils’. It is also hard to ignore the social intangible costs, such as the cost from relocation of local residents, demolition and reconstruction of the original old buildings. The new residence may be far from the original living area. This, in turn, brings in additional, transportation, communication and other costs. In my opinion, it is important to consider the hidden costs before we start a catalytic project.

3. Lack of public participation. Xintiandi project decision-making and implementation process may be characterized by the absence of public participation, as no top-down feedback channels were formed. In my opinion, this catalyst project development rather paid more attention to historic district bringing the benefits of economic revitalization. I believe
that public participation in decision-making process can enhance the scientific establishment and the implementation of the adjustment timeliness. The public can direct the catalytic project and demand objectivity of the situation. It provides an important reference, as emergency situations cannot be predicted. That is to say, the catalytic reaction itself is not binding.

The initial purpose of the Xintiandi Project is profit, and the project is commercial. The “top-down” of catalytic reaction leads a lot of residents to the unbalance situation and lack of participation, they are in the bottom position. And the investor and policy makers become the leader on the top. That is to say, this case is not successful totally.

The next catalytic project also takes place at Luwan district, in a place called Tianzifang. Below we will take a look at another type of urban catalysts which lead to achieving revitalization of the area.

The background of Tianzifang case

The 420 meters long Taikang Road (between Ruijin Road and Sinan Road) is a small street in Luwan district, Tianzifang, located at lane 210 on Taikang Road (Image 6-13). Tianzifang is an arts and crafts enclave that has developed from a renovated residential area in the French Concession area of Shanghai. It comprises a neighborhood of labyrinthine alleyways off Taikang Road. Historically, Lane 248 was a key entrance that, in order to gain access to the commercially developed area, required...
walking about 50m through the local residents' life, including bicycles, hanging laundry, etc. until finally emerging in the "new" area. Tianzifang is known for small craft stores, coffee shops, trendy art studios and narrow alleys. It has become a popular tourist destination in Shanghai, and an example of preservation of local Shikumen architecture, with some similarities to Xintiandi ("Tianzifang"). This area, however, is different and quite unique. It has more personality and character than many other places in Shanghai, as there are lots of new shops, however, the character of the buildings has stayed the same (Yang, 2007).

Taikang Road was initially slated to be the "art street" back in 1998 when a former candy factory was renovated to become the International Artists Factory. The four-story building and Lane 210 quickly became the home of marketing and design studios, fashion and interior outlets, and several of the city’s established artists, including Huang Yongzheng, Chen Yifei, and Er Dongqiang (Anonymity, 2006).

**Key of revival strategy------Functional replacement of historical buildings**

**The obsolescence of Tianzifang**

Shanghai was one of most important industrial bases before liberation. The form of buildings in the old town is residential, mixed with factories in lanes (Image 6-14). With the adjustment of industrial structure, many old enterprises closed and large number of vacant industrial buildings and discarded them. This
brought out functional obsolescence, as abandoned buildings themselves lead to physical obsolescence and the districts which included these dilapidated factories also inquire the image of obsolescence problems.

The process of Tianzifang catalytic reaction

The neighborhood was originally built in the 1930s as Shikumen residential district. It remained very local until about 2006 when it was slated for demolition to make way for redevelopment. Opposition among local business owners and residents, as well as a famous artist Chen Yifei who had a studio in Tianzifang (Image 6-15), submitted a proposal to the local government to preserve the Taikang Road area and its traditional architecture and ambience.

Rezoning of Tianzifang began in 2005-2006 with nearby art schools and studios, and later small international business owners found out about Tianzifang through the local grapevine. Its development began very slowly with local merchants, a New Zealand store, Japanese restaurants, and a tea house setting up in the district.

From the beginning of 2007, journalists, visitors and local residents started visitingt the area and spread the word about a cosy little lane district that housed some interesting and creative businesses. Additional articles in both local and foreign media such as the New York Times helped to increase the awareness of this older and unusual community,
that stood out among the more modern and commercial shopping areas of Shanghai.

Another example can explain the Tianzifang case. In 2004, No.15 Tianzifang resident Mr. Zhou only had 500 yuan saved from retirement and had financial constraints before he started to rent his apartment out. After he rent his 32 square meters room to a fashion designer, earning 3500 yuan per month, he spent 1000 yuan to rent a room from neighborhood on the second floor, at the same time, he is invited to be a safeguard in that design shop. So one Shikumen building solved two problems for Mr. Zhou – both the income and employment, while the old Shikumen building was also repaired by designer. Later it became a new art workshop (Image 6-16). Other 28 neighbors saw the buildings increase in value and started renting out their buildings collectively. In addition, they also co-financed the refurbishment of alley pavement, street, the acquisition of public leisure chairs and parasols, and spontaneously organized for self-management of the owners' committee which residents spontaneously managed, and eventually developed into creative industries. Followed by replacement of the neighborhood residential function, Tianzifang mode spread quickly to other neighborhood on Taikang road. The residents living at the lane 248 begun to rent Shikumen buildings to various art workshops. This later became a second lane with creative industries on it, as well as other 20 lanes on Taikang road.

Despite all the businesses selling trendy foreign goods, the area does not have the look of having been overly beautified. The electricity cables are still strung overhead, and air conditioning units are on the outside of the buildings. The district is distinctly different from Xintiandi. Another Shikumen redevelopment in the first case study, in that it has managed to preserve its residential feel, adding to its appeal (Image 6-17).
Image 6-17: The view of Tianzifang after replacement

Source: www.google.com
The analysis of Tianzifang as a urban catalyst------The replacement of functional historical buildings as urban catalysts

The revitalization of Tianzifang began in governmental guidance from the initial positioning of creative Industries, to invite Chen Yifei Erh and famous artists to take advantage of celebrity, governments operate actively. During the process of functional replacement, creative industries as an important function became one the most important of Tianzifang catalysts strategy. Creative industries, the U.K. Creative Industries Mapping Document defined the creative industries as “those activities which have their origin in individual creativity, skill and talent and which have the potential for wealth and job creation through the generation and exploitation of intellectual property”. In launching the Mapping Document, the Minister for Culture and Heritage, Chris Smith, made the observation that “The role of creative enterprise and cultural contribution [...] is a key economic issue. [...] The value stemming from the creation of intellectual capital is becoming increasingly important as an economic component of national wealth. Industries, many of them new, that rely on creativity and imaginative intellectual property, are becoming the most rapidly growing and important part of our national economy. They are where the jobs and the wealth of the future are going to be generated” (Terry, 2011:p.9-10).

With the rapid advancement of science and technology and increasingly fierce competition in countries, the cultural industry as the core development of creative industries has become an important indicator of a country or urban comprehensive competitiveness. Tianzifang as a cultural and creative community, in the initial investment, there is a requirement: foreigners and returned from overseas Chinese have priority to rent first. Its purpose is to allow multi-national, multi-cultural, multi-style and multi-element gather and promote the development of creative industries. Such as American Ceramists Jamie opened a studio attracting countless foreigners coming to learn pottery techniques. Tianzifang does not only have the old factory buildings, but also gathers typical Shikumen buildings. With Tianzifang development of creative industries, Shikumen also went into people's vision. Shikumen buildings, due to the disrepair, population expansion, lack of facilities, became the center of dilapidated town, causing most people to move out. How to solve the contradiction between the preservation and transformation of old town has become one of the city’s problems. The residents see the creative industries brings new life to lanes, and thus began paying attention to the potential of their
old Shikumen buildings. In most cities, the problem of the process of transformation of the old town is residents who tend to be passive and trapped into the lack of funds, waiting for the government to repair or demolish a broken house (Image 6-18).

Image 6-18: The analysis of replacement of function in Tianzifang

Source: by author
On Taikang road, due to the success of Tianzifang project, the catalytic reaction stimulated the residents to contribute to the spontaneous transformation and protection of Shikumen. As a result, people’s activity and driving force led towards revitalization of urban quarters. This model not only avoided cutting the historical context due to the demolition and reconstruction under developer’s control, but also integrated the Shikumen historic architectural form and modern creative industries to ensure protection of historic and introduce new means of economic growth. The more valuable thing is local residents got the actual incomes residents and improved living conditions for the preservation of historical heritage, local residents generate enthusiasm to devote to preservation of historical heritage (Image 6-19).

Currently, there is 18,000 square meters of industrial warehouses which are old residential buildings transformed into painting studio, design studio, art galleries, photoshot studio, museums, fashion center, fashion showrooms and so on. It hosts residents of Australia, U.S, France, Denmark, England, Canada, Singapore, Japan, Ireland, Malaysia, Hong Kong, Taiwan and other 18 countries, as well as Shanghai and other mainland provinces and cities. More than 160 Chinese and foreign cultural and artistic creative design agencies and enterprises invested into it. (Anonymity, 2006:p.8-9)

Source: http://www.uutuu.com/fotolog/detail/1628405/pics how/
The evaluation of Tianzifang project as a urban catalyst------“bottom-up”

The revitalization of Tianzifang on Taikang road successfully provided the famous Shanghai location with fusion of history and modern, multicultural features of Western and Eastern, urban fashion, travel and leisure. Firstly, it preserved the old Shanghai style character and historical architecture. Secondly, it became the main visual Communication Art and Design Center, costume design center as well as art and exhibition center for artists. Thirdly, it became a new growth point of Shanghai’s knowledge-based economy.

In the early stage of revitalization in Taikang road, the government put a lot effort into the overall planning, functional orientation, improvement and construction. While business developers put forward their ideas, the government continued with making the next steps in the planning guidance. Their vision was to develop a lane (Tianzifang) to a street (Taikang Road), thus transforming it into a block (Taikang Road, Sinan Road, Jianguo Road and Ruijinger Road together). That is to say, it was the replacement of functional historical architecture which inspired the catalytic reaction. In its turn, Tianzifang, as a urban catalyst, continued effecting other lanes or alleys on Taikang road. As a result, finally several lanes together become a new catalyst to revival of the whole Taikang road, as well as the whole block.

The most successful step of Tianzifang case is public participation. Different from the Xintiandi case, the local residents became a dominate part and decide to direction of the project under corporating with artists. These kind of catalytic reaction is from the bottom(local residents) to the top(investors and policy makers).

It is feasible and can be planned. It is coincident with characteristics of catalyst, ‘The catalytic reaction is contained; The influence of catalytic reactions is not predetermined; Catalytic design is strategic. Each catalytic reaction is based on the revival of the entire historic urban quarters, rather than a single building renovation. Instead of historic quarters of isolated pieces, imagine historic quarters as a whole’ (CHAPTER 4).
Conclusion

From the two case study in Luwan district in Shanghai, Xintiandi and Tianzifang have some similar parts since they are so close to each other and have similar Shikumen buildings, with the main function devoted to residential use. The conclusion may thus be presented in the table below (Image 6-20).

Image 6-20: The comparison of Xintiandi and Tianzifang

Source: made by author

<table>
<thead>
<tr>
<th></th>
<th>Xintiandi</th>
<th>Tianzifang</th>
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<tbody>
<tr>
<td>Obsolescence</td>
<td>Physical obsolescence, functional obsolescence, image obsolescence, economic obsolescence</td>
<td>Physical obsolescence, functional obsolescence, image obsolescence</td>
</tr>
<tr>
<td>Situation in place</td>
<td>Spatial situation is quite closed, it doesn’t adapt to the environment, the residential function is isolate, but the lifestyle and texuture in the area have historial value</td>
<td>Industrial buildings themselves haven’t special feature, but residential Shikumen buildings are full of historial value</td>
</tr>
</tbody>
</table>
### Role orientation of catalytic reaction

<table>
<thead>
<tr>
<th>Public space in catalytic reaction: spatial composition and characteristic of public space have been changed due to the new space’s implantation. Accordingly, the public activities, activities’ intensity and spatial value have been changed accordingly.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Historical buildings in catalytic reaction: historical building itself as a carrier to incarnate the cultural value, functional orientation. Architecture serve function.</td>
</tr>
</tbody>
</table>

### Functional evolution

<table>
<thead>
<tr>
<th>From residential to commercial</th>
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<tr>
<td>From industrial and residential to cultural, creative industry and commercial-residential mixed</td>
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### The way of functional renewal

<table>
<thead>
<tr>
<th>Functional Replacement</th>
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<tr>
<td>Functional Replacement and Implantation</td>
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### Catalytic mode

<table>
<thead>
<tr>
<th>Planning of developers and government</th>
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<tr>
<td>Planning guidance, utilize cluster effect</td>
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### The reason to be catalysts

<table>
<thead>
<tr>
<th>Urban needs</th>
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<tbody>
<tr>
<td>Functional orientation of districts</td>
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</table>

### Principles of catalytic strategy

<table>
<thead>
<tr>
<th>Create new texture “top-down”</th>
</tr>
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<tbody>
<tr>
<td>Strengthen original texture in spatial Form a new cluster effect in functional “bottom-up”</td>
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</table>

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**Enlightenment------ Formulation of new criteria for Chinese Urban Renewal**
In this paper, I discuss the urban catalyst strategies under the condition of revitalization of historical urban quarters. These quarters are meaningful in the history as well as the present and the future. That is to say, this is a special atmosphere original from history, architecture and urban landscape and these characteristics make them charming and scarce.

All cities have experienced the processes of growth, development and decay. A lot of cities and quarters had their past golden age, but they also did not avoid the rapid recession which followed. In return this brings struggles for the second golden age or global position. The historical urban quarters become one of failing factors. At the same time, the Sense of Place and Neighborhood Feel in the districts is also rare resource to shape urban feature. It has the full realization that an appropriate role of urban quarters is the key of successful revitalization, which requires an insight to identify and potential needs to implant an appropriate catalyst to revive the city.

Fostering the urban catalyst of urban quarters revitalization is a challenge that it requires the creation of a diversified economic base with the potential balance between different needs. Its purpose is obvious, as it is important for the planning process to achieve the revitalization of physical environment. The compelling environmental intervention may be a first step to then. But how is it possible to achieve the functional revitalization of historical urban quarters? In order to achieve it, implanting appropriate new function, functional renewal or functional replacement might be necessary. And how is it possible to achieve the economic revitalization of historical urban quarters? “In the historical urban quarters, despite an improvement but nobody cares about the empty building has no effect on the economic revival, while a building which has a lot people live in is more useful. Yes, the key is the person and economic activities, rather than murals and indoor plumbing fixtures, and ultimately increase the economic value of districts” (Rypkema, 1992). Another question which arises from that is how it is possible to achieve the social revitalization of historical urban quarters. The answer is thorough the human use, the space can be a location and the establishment of a vibrant historic district needs interactive function to occupy the street interface.
Thus, the successful historical urban quarter, finally, inevitably goes to physical, functional, economic and social revitalization.

Unlike the American or the European, the Chinese historic urban quarters, have a unique sense of history, for Chinese residents. The residents need to be active participants in it. But time changed is inevitable, the old architecture have been swept away, the continuity of place decidedly dies, and people tend to lose their sense of belonging and a sense of security. Therefore, the architecture which has historical and architectural value needs to be preserved. Undeniably, the space and architecture in the historical urban quarters becomes the hope of revitalization.

Basic on the analysis above, the Chinese city which can achieve the revitalization may need include to inclusion, flexibility and authenticity reached by regenerative and participatory design methods.

The theoretical study presented above provides an important framework that supports the analysis and design process methodology used in the following design proposal. It aims to answer the questions of: How is it possible to achieve a creative historical urban quarter with inclusion, flexibility and authenticity in Nanbuting district? And in what ways can physical, functional, economic and social revitalization be achieved in Nanbuting district? The next chapter provides answers to these questions.
CHAPTER 7  DESIGN PROPOSAL

According to the theoretical review and case study presented above, the goal of the revitalization of historical urban quarter in China is to create a historical urban quarter with inclusion, flexibility and authenticity. Chapters 5 and 6 describe the way of revitalization focus on buildings and space. Functional renewal of public or functional replacement of buildings is thus an important way of leading a district to the revitalization. A historical urban quarter is a place which is to be kept featured, vivid, diverse and as a result add to the city physically and economically. The residents living in the historic districts certainly need to be taken into consideration. and be allowed to actively participate in the revival of the district. However, in the design proposal, I should not only consider how to revive Nanbuting district, as it is also important to add the “residents perspective” into it. I am thus going to follow the urban catalyst theory to renovate the design area. The urban catalyst theory does not only focus on the physical revitalization, but also the economic revitalization. Besides, it also takes into consideration the catalytic reaction. Therefore, the purpose of the theory is to stimulate the point, the block, the plot even the whole city.

Hence, the main goal of the Nanbuting design proposal is to use the urban catalytic revitalization to protect and revive Nanbuting old residential district, simultaneously attempting to transform it into a district with inclusion, flexibility and authenticity (Image7-1).
Image 7-1: The master plan of Nanbuting district
I will follow to the aspects in the design process with “bottom up”:

1 Road system: To enhance the road system in the district, change the function of network and add zebra crossing.

2 Revive buildings. In the design proposal, the historical building may functional replacement or renovate the appearance of buildings which has a good structure or culture view instead of removed. To achieve the minimum demolition in Nanbuting area, keep the historical and cultural value. Try to let the buildings become the urban catalyst to stimulate the surrounding area or the whole district.

3 Revive the Space. Try to functional renewal of existed space which was functional obsolescence and implant the new public space which can increase the public participation, also the space can be the urban catalyst to revive the district.

4 Use the abandoned material from the district to create a new fixture used in the different space in the district.

5 Create the green corridor where the area totally demolition, the destroyed space can become a new landscape in the district.

6 Design the main entrance of Nanbuting. The main entrance of Nanbuting is a connection between inside and outside of the area, so try to enhance the connection with the new centre space which will implanted.

7 Function of buildings. The design goal of function in the district may maintain the original residential function for the main part, but since some buildings are already tear down and some industrial places have been abandoned, I will give a new function which I think it is necessary to change.

8 Economic revival. Try to let the local residents participate the district revilization actively, let the residents coporate with designer, get money from rent, handicraft and so on, to revive the district economically.

9 Consider the senior group. The senior group is the main group in the district, so I may consider about them from the space and buildings use to let the seniors get more careness.
This district lacks a lot of public facilities, so I will add more public facilities such as markets, clinics, nursing centers, schools for seniors, canteens, and so on.
The background of Nanbuting district

Nanbuting district is located in the south of old Nanjing city with a total area of about 168 thousand square meters. The area starting from South Zhongshan Road in the east and ending at Hongtu Bridge Road in the west, stretches from Qiaozhang alley and Nima Alley in the north and ends at Shenzhou Road in the south, between Confucius Temple and Xinjiekou city center. It is one of the most successfully preserved old neighborhoods in the south Nanjing. The streets are lined with residential courtyards, workshops, teahouses and grocery.

In the neighborhood the Pingshi Street and Daban Alley go through the south and north respectively. There is a Pingshi Platform, due to the lack of law in the past, this place was used as a place who had disputes with others and went to this place together, discussed with local residents and got judgement from residents finally. This is a special a miniature of modern legal system and of spirit of Nanjing people.

In the southeast part there is a famous Gan’s Grand Courtyard, known as "ninety-nine and a half" building structure. It is the largest and best preserved civilian residential house in China. These ancient buildings in typical Chinese wooden structure were built in the early years of Daoguang Period (1821—1850). The architectural heritage of Huizhou ancient architectural style, exquisite stone carvings, as well as Taihu basin construction style, strike attention with the meticulously carved beams. Nowadays, Gan’s Grand Courtyard becomes Nanjing Folk Museum because of the white walls and gray flying eaves to create an elaborate symmetry that makes this one of the most photographed spots in Nanjing. Each courtyard area of the compound is dedicated to a different time period or different aspect of the Chinese life and includes deliciously colorful exhibits of Kunqu and Peking opera costumes, the finery of a traditional wedding and much more.

Nanbuting possesses a long history (Image 7-2, Image 7-3), beginning with the late Yuan (1279-1368) to the early Ming (1368-1644) Dynasty. Emperor of Zhu Yuanzhang with its capital in Nanjing planned the city’s three parts: palace city (east),
resident area (south) and military area (north and west). Handicraft industry gathered in the southwest Nanjing was called “eighteen workshops” for the best handicraft of that time. Nanbuting district, located in the centre of resident area, attracted merchants gather there ad became a thriving commercial center. The formation of the streets and alleys layout started at that time. This led the social upper class moved to the area. In the late Qing Dynasty (1636-1911), the ancient police station was established in the area and named Nanbuting. Celebrities, merchants, poets and scholars settled here and become very popular and wealthy area. During the Ming and Qing Dynasty, the layout of spatial pattern was formed by staggered streets in the entire Nanbuting district. Most residence had many courtyards with was luxuriously decorated. The houses were full of the characteristics of civilian residential in the area of southern Yangtze River. The layout is special Chinese closed courtyard and siheyuan family group. It possessed a low population density and a comfortable environment.

After the Republic of China Period (1912-1949), the commercial center moved to the north of Nanjing Xinjiekou area (center of Nanjing today). With the historical events effecting the area, Nanbuting lost its commercial center status. The upper class and celebrities moved out due to the wars and Nanbuting became an edge area, characterized as a normal housing area. After being influenced by socialist transformation in 1956 and culture revolution in 1966, the economic situation of residents began to deteriorate. The spatial morphology of Nanbuting was broken, the residential pattern changed from isolate family living mode to concentrated families in the tenement yard. Due to the high rising population density, the local residents built more rooms illegally in order to get more space. The immediate results of this behavior destroyed the siheyuan spatial pattern and caused a serious lack of public service facilities. Since 1978, the rapid urban development led to the fast construction around the Nanbuting district, due to the widening and rebuilding of Jianye Road and South Zhongshan Road. This, in turn, raised the locational value of the area. A lot of new housing projects were started up in the surrounding area. But, as a result of the high population density, Nanbuting district declined, together with other important units of cultural relics such as Gan’s Grand Courtyard being an example. The district as a whole was
at a standstill. After structural aging, and the lack of functionality of the historical heritage, the quality of life deteriorated and Nanbuting historic district gradually became an urban shanty town.

Current situation in Nanbuting district and obsolescence

This statistics of 2010 demonstrated the negativity of the current situation. In the investigation of 110 families living in Nanbuting area, the income averages of the 70% of the families were lower than 1500 Yuan per person per month (Miao, 2012:p.48). Besides, over half of the people have lower than 15 square meter of per-capita living space. 94.7% of families have their kitchen, built by themselves or accessed from public usage. 67.4% of families do not have a private toilet and 53.7% of the families possess no shower room and rely on the public one (Miao, 2012:p.49).
From 2001 up until now, the district renewal project has been under development. It is showing strong contrast between modern and traditional. As a result, numerous problems appeared. For example, the urban context was broken and the urban feature disappeared after the continued urban renewal. The most important issue for Nanjing urban renewal has been renewing of its physical environment, the historical context, as well as the cultural surrounding. The object of this period in Nanjing led to decline of the central area. Thus, the city became the area with a new urban function and a potential for development. Therefore, Nanbuting district is one of on the focus areas (Yi, W., 2009). The image below depicts the current situation in Nanbuting area (Image 7-4).
Image 7.4: The current situation in Nanbuting district
Due to the special architecture group in Nanbuting district, most architecture sustains the Ming and Qing period’s residential form, surviving as a representative of ancient residential area. Nanjing government took action to rescue the Gan’s Grand Courtyard in Nanbuting district (First Stage of Nanbuting Project). Due to the limitations of condition, the surrounding area did not improve. In 2003 the Nanjing government claimed Nanbuting area to be a historic district reported to the national state. Following the review of planning and heritage experts, Nanbuting officially became a historic urban quarter and the project became divided into four stages. In 2006, the government launched a renewal project in Nanbuting area, completing Xinanli commercial district (Second Stage) in 2009. The same year, the Third and Forth Stages were set, but due to the pressure from the society, the Forth Stage was laid aside until now (Image 7-5).

Although this area is full of historical and cultural values, the living situation and the locational excellence claim the district’s “physical obsolescence”, “functional obsolescence”, “locational obsolescence”, “image obsolescence”, as well as “economic obsolescence”. Therefore, this district has a huge potential to revival.
The analysis of Nanbuting district

Public transport and road system analysis

Nanbuting district is located in the heart of old town Nanjing, close to the two main city centres - Xinjiekou area and Confucius Temple area, and Metro Line 1 and 2 also passed this area (there are two metro lines in Nanjing currently). Undoubtedly, there are many bus lines going to this area as well. Moreover, the district occupies the very center of the city. The main busy road passing through the area carries buses, cars and certainly, people, into the whole city (Image 7-6).

The design process is not envisioning the bus lines outside of the district, as the transportation from the district to the city is already very convenient. The area features numerous bus lines just beside entrance of Nanbuting, besides, a metro line is close to the area, even from the Nanbuting it is a walking distance to two city centre.
The image (7-7) on the right shows the road system in the Nanbuting district. From the statistic in the table below and comparison with the map, the main Pingshi Street (评事街), Rongzhuang street (绒庄街) and Dabang alley (大板巷) is about 6 to 6.5 meter. It is used for cars, bicycles and walking. Thus, all the functions are mixed on one road without functional partition. This, however, is quite dangerous for the people. The rest of road in the district varies from 1.5 to 5 meter. From the data of width and length, half of the alleys have narrow and cozy roads with perfect dimension for walking. Besides, the road of Nanbuting district is also cultural and possesses a historical value with long history.
Pingshi Street may serve as another example of vivid depiction of history. Despite the decay of Nanbuting, the main living needs can be found on Pingshi street, as well delicious food shops on the first floors of the buildings, stree vendors, elderly people chatting on the street, busy traffic with cars, bicycle and people walking.

<table>
<thead>
<tr>
<th>Name</th>
<th>Width</th>
<th>Length</th>
</tr>
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<tbody>
<tr>
<td>Pingshi Street</td>
<td>6.5m</td>
<td>1002m</td>
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<tr>
<td>Rongzhuang Street</td>
<td>6.6m</td>
<td>900m</td>
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<tr>
<td>Daban alley</td>
<td>6m</td>
<td>833m</td>
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<tr>
<td>Nima alley</td>
<td>5m</td>
<td>522m</td>
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<td>Zouma alley</td>
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<td>Pingzhang alley</td>
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<td>279m</td>
</tr>
<tr>
<td>Laofang alley</td>
<td>3.4m</td>
<td>173m</td>
</tr>
<tr>
<td>Guanyin alley</td>
<td>3m</td>
<td>561m</td>
</tr>
<tr>
<td>Nanbuting alley</td>
<td>2.5m</td>
<td>193m</td>
</tr>
<tr>
<td>Dading alley</td>
<td>2.5m</td>
<td>340m</td>
</tr>
<tr>
<td>Ganyu alley</td>
<td>2m</td>
<td>136m</td>
</tr>
<tr>
<td>Chuaibu Fang</td>
<td>2.4m</td>
<td>375m</td>
</tr>
<tr>
<td>Chengshan Fang</td>
<td>1.5-3m</td>
<td>375m</td>
</tr>
<tr>
<td>Nanshi Lou</td>
<td>1.5m</td>
<td>173m</td>
</tr>
<tr>
<td>Baiyi An</td>
<td>2m</td>
<td>180m</td>
</tr>
</tbody>
</table>

Image 7-8: The data and names of roads
From the building analysis, the main function of area is residential. There is a Nanking folk museum inside, which constitutes the heritage site. The interesting part is the industrial area, known from the case study as Tianzifang model. In its way (CHAPTER 6) it served as a catalyst to the district, bringing the creative industry into the area. From the image we also can find the lack of facilities, which await...
functional renewal of buildings.

Image 7-10: The structure and culture view of situation of buildings
One may observe from image(7-10) that most of buildings in the district face the physical obsolescence with poor living condition and lack of facilities. This applies to all structures, except of the new residential area around the central old part of the district. The poor structure of the buildings may be torn down during the demolition, but my idea of this part is to make the abandoned area a new public space by keeping some part of building structure and merging it into a new landscape in public space. In that case it will not only bring the memories to the residents, but also educate the people who are interested in Nanjing’s ancient building structure. Moreover, this also applies the rule of urban catalyst theory. The catalyst is not destroyed, but developed. Furthermore, these place can be a new catalyst to stimulate the surrounding area even further. Image (7-11) shows the height of the buildings in Nanbuting. Most of them old buildings are under 4 meters tall, which is quite special in the city nowadays. We may keep the height and preserve them.
Space analysis

Image 7-12: Space analysis of Nanbuting district
Image 7-13: The active space around old wells or old trees
Image 7-14: The situation of old wells and trees in Nanbuting district
Considering the whole space of the district, it may be observed that there is quite little space left for the activities of the local residents (Image 7-12). What they may get is the space in front of a building, on the street or in the alley. However, it is important to keep in mind that public spaces are crucial for the cities, as they can bring activities and attract more people. Generally, it can divide to private space in the private courtyard, resting space, small group space in a small-sized public area, while allocating a central space in a bigger area. The special part of space in Nanbuting district is old wells and old trees (Image 7-13, 7-14). Nowadays there are 37 old wells and 30 old trees dating back to Qing Dynasty. They serve as the historical vectors and tell the story of the old times. The wells were initially used as water sources on daily basis. The housewives would do laundry while chatting with others. Later they would become a very important and vivid public space for activities. Children would play around when they were waiting for their parents. Similarly, the old trees, can be a central landscape in a public space. Nevertheless, due to the reason of time passing, a lot of old wells get abandoned, which leads to their locational and functional obsolescence. Further in the thesis the author is going to share a vision of how to deal with the old wells.

Senior’s behavior analysis

The main living group in Nanbuting area is the elderly people with low levels of income. Drawing from the statistics I got from the survey, several senior activities may be analysed below in the following way (Image 7-15). In private space, the activities are predominantly reading, watching and resting; in the resting space, the activities are chatting, reading and seeing; in the small group space people are mostly occupied with chatting, reading, exercising, seeing, thinking, planting and dancing; in the center space activities include chatting, exercising, seeing, thinking, planting and dancing.
Image 7-15: The analysis of senior’s behavior in Nanbuting district
The design of Nanbuting district

Image 7-16: Master plan of Nanbuting district
Lack of service facilities --- More facilities are added

Image 7-16: Master plan of Nanbuting district

Image 7-17: Public facilities design

xczxcxZxZXxZxZXxZxZX
From the image (7-17), I add more facilities which rely on the needs of local residents. After public facilities are added, the district becomes more convenient for human use.
The green space at the stage of design received a very low portion. Due to the demolition of Nanbuting and historical reasons, the green space became ignored in the area. However, there are many old trees, some of them being over one hundred years old. Therefore, the author’s suggestion is to keep the old trees and integrate them into the green space center for landscape view. For that reason I have created a green corridor in the whole area. It is represented as a line, which in its way may become an urban catalyst. The green corridor may thus form a center space for residents, as well as tourists. The first group will enjoy it as a place for activities, whilst the second will enjoy resting and seeing the daily life in the old Nanjing style. Later, the place will be a big catalyst to impact the surrounding area, thus leading the whole district to achieve its revitalization. In the west of the green corridor, the center place is original from the bad buildings which were demolished. I intend to keep some structure of the buildings and add it to the new in order to let people be aware and learn about Nanjing’s ancient buildings.
Little space around wells---Full of different types of open spaces

Image 7-19: Space design
As for the space design, I implant a lot of new public space and functional renewal of private spaces in the district. This may be seen from image (7-19), where I created courtyard 1, courtyard2, courtyard 3 and courtyard 4. There are details below to explain the respective spaces. Based on the urban catalyst theory, consideration of space is essential for revitalization of historical urban quarters. The reason to that being people’s activity in public spaces, which in its turn brings the new life into the area. Additionally, apart from the center space, the other types of spaces are to be considered for the use by senior citizens. As noted earlier, the district’s population is predominantly elderly people. This is also a reflection of the urban catalyst theory, stating that “it is necessary to know the context and the genius loci of historic urban quarter” (Chapter 2)

Prior to the explanation of the space design, I need to show the fixture I designed for the area (see images 7-20, 7-21). This fixture is used in the public space, the materials are from the old wells, which were mentioned before. The rest of it derives from the living place, with the wood left from the time the house breaking, and the metal part extracted from wasted metal. I will used in to the four types of space.

The placement of such device can enrich the function of different spaces to meet the various needs of the senior citizens, thus providing a better service to them. Hence, Nanpu Ting historical district will be a comfortable and elegant space, as well as a positive living environment for the elderly people, who may in such way enjoy the social benefits.
Material Source of the fixture

- Branch made by Aluminum
- Old well
- Water from underground
- Wooden stool

Material A:
Wells which are close to the daily life

Material B:
Wood which are left while housebreaking

Material C:
Wasted metal

Image 7-20: Fixture Design
Image 7-21: Section of the fixture
**Fixture function**

Image 7-22: Fixture function A
Image 7-23: Fixture function B

**Be used in:**
- Private space (Courtyard 1)
- Resting space (Courtyard 2)
- Center space (Courtyard 4)

**For sitting and chatting**

**For hanging**
Image 7-24: Distribution of private space
For the private space (Image 7-24, 7-25), I distribute over 70 private spaces into the residential area. The space around the private housing may thus facilitate such activities as chatting, sitting, gardening, planting, exercising and so on. It is also a closed space for personal use and an excellent way of engaging the elderly into gardening and planting. The area is around 10 to 20 square meters and the service radius is 100 to 150 meter.
Image 7-26: Distribution of resting space
As for the resting space (image 7-26, 7-27), it can be called semi-open. The resting space between the neighborhood is used by the residents living close by. I thus distributed 23 resting spaces in the district, covering the area of around 10 to 20 square meters, with the service radius of 150 to 200 meter. The activities here in the resting space may range from chatting, sitting, reading, watching and so on. Besides, every senior citizen will have enough space to enjoy the happiness together with children and grandchildren.

Image 7-27: Perspective of resting space
Image 7-28: Distribution of small group space
The small group space is open gatherings for the older people, as the elderly usually feel lonely and isolated. Such a transformation will make people more sociable, even in the early morning, they can feel the joy of communicating. The area is around 20 to 50 square meters, depending on the location. The service radius is 250 to 300 meters. It has 10 small group spaces distributed within the district (see image 7-28, 7-29). The main activities which may occur here are chatting, resting, playing, sitting, thinking, reading and exercising.
Image 7-30: Distribution of centre space
For the center space design, I distributed 3 in total (image 7-30, 7-31). This open space area is 100 to 200 square meters, and the service radius is 400 to 500 meters. The west and north of centre space is an abandoned area after demolition, therefore it is hard to return it back. I intend to keep some building structure in the area, adding a new view into the centre space (image 7-32). The east centre space, which was a commercial place before, but became torn down this year, is suggested to add a centre space. Known for being the window of Nanbuting area, it is the main entrance into the east side, and in vicinity the Nanjing Folk museum. Therefore, it is neccessary to set a space for tourists and residents. In China, we
have a special name for this kind of green space beside the city main road-street park. The function of this park is not only for the locals’ chatting, playing and dancing but also a connection between Nanbuting and the rest of the city. For that reason, tourists and people who are passing by will be also able to use the space (Image 7-33).

Through the space design, we may feel the public space cover the whole area. Each space may thus serve as a small catalyst, impacting the surroundings, from the space function to revival the whole district. It is also the goal of the design
proposal to revive the historical urban quarter with affinity. The space may thus serve a communication function and has a potential of bringing in a new life for the locals with affinity.

After completing the space design, I may give some design proposal for roads in Nanbuting. The basic analysis of the road system shows that the small alley road below 4 meter will be unchanged. The length of road is over 5 meters and will thus be redesigned. Hence, the new street in Nanbuting will be separated by the walkside, bikeside and driving way, with an added zebra crossing for increasing the safety (Image 7-34).
Image 7-34: Road design
Drawing from the analysis of the function of the buildings posed above, by now we know that Nanbuting features several industrial areas in. Due to the historical reasons, they are all abandoned. However, reflecting on the case study of Tianzifang, the industrial places may sometimes become creative industry area and revive the whole district. Applying the Tianzifang experience to the industrial place, I propose a future creative industry to the district, (Image 7-36). For that matter the government should help the local residents solve their economic problems. Moreover, the local residents can also learn from the practices used by Tianzifang residents in renting out private property, as the structure of buildings in a lot of area keeps the traditional and historial values (Image 7-37). As we can see from the analysis of building with traditional culture analysis, a designer can advise on renovation techniques. This is expected to bring additional income to the residents in for of rent, which in its turn may resolve physical, image and economic obsolesences. Thus, with a new catalyst being composed, the whole area may become significantly revived (Image 7-35).

Furthermore, the elderly people who lived in Nanbuting in the past were known for their handicrafts. Thus, inheritance of the Nanjing folk handicraft culture, could benefit the contemporary Nanbuting. The local residents may as well cooperate with designers (Image 7-38) or renovate their houses and arrange businesses in them. Handicraft workshops, creative industries and Nanjing folk museum may also become additional catalysts in intangible way.

Therefore, all the points mentioned above may solve the economic shortcomings for the residents who receive low retirement and live predominatly in poor conditions without modern conveniences. Nevertheless, revitalization of the district, is expected to provide a positive impact on people’s lives. For that matter the government needs to raise the people’s awareness and let the residents join in actively into discussions of projects.

On the main alley or street such as Pingshi Street, Rongzhuang Street, Daban Alley or Nima Alley, the structure of buildings is characterized by two floors, built of wood and having an area for commercial use on the first floor (Image 7-39). Most of them are food businesses, which also satisfy the daily needs of the local residents.
Thus, the suggestion is to keep the function of the buildings: with the living area on the second floor and commercial area on the first. Furthermore, due to the image and physical obsolescence, the exterior of the buildings may need renovation. The author proposes a digram of the prospective design of the district (Image 7-40, 7-41).

Image 7-35: Creative industry be a catalyst
Image 7-36: Diagram of industrial area becomes creative industry
Image 7-37: Good structure of buildings which residents can rent out
Image 7-38: Nanjing traditional handicraft
Image 7-39: Traditional structure buildings with commercial on the first floor
Image 7-40: shops and residence mixed along the Pingshi and Rongzhuang street
Image 7-41: Diagram of buildings with commercial on the first floor in the future
Conclusion

**Before**

- Poor living condition
- Historical buildings with physical, image and economic obsolescence
- Messy street network
- Lack of public facilities
- Few public space
- Messy private space
- Functional aging
- Lack of careness for seniors
- Lack of green space
- Abandoned old trees and wells

**After**

- Good living condition
- Preserved historical building with renovation
- Abandoned industrial area becomes creative industry organized road system
- Private space with function
- Resting space, small group space, center space be created
- Abundant public facilities
- Pedestrian-friendly green corridor

**Image 7-42: Conclusion**
In the design proposal, I revive the Nanbuting district by following the urban catalyst theory. The proposed changes may be viewed in Image (7-42).

1 Redesign the main street in the Nanbuting, enhance to the road system and change the complex situation to the safe road network, add a zebra crossing for walking.

2 The original residential area, except the area which had been already torn down, has been preserved, keeping the historical scence of the whole area. My design envisions the structure of the buildings which would let residents lend certain parts of their property to designers and artists in return for profit. Those who possess handicraft skills may cooperate with the designers. Moreover, the designer may be asked to renovate the building in order to keep the historical value, whilst the residents will get additional income. As a result, this is going to solve both the physical and the economic problems. The designer center combines the historical buildings as major urban catalysts for reviving of the whole area. This design also considers public involvement in the process and envisions this mode to spread around the whole district.

3 Create the centre space in the demolished area, keep some structure of buildings which has historical value to become a new landscape view in the centre open space. This, in turn, will bring a urban catalyst and a possibility to impact the whole district.

4 Replace the function of industrial area to the creative industry, let the designers or artists rent it and renovate the industrial area.

5 Create the green corridor in the district, connect different open space and semi-open space, increase the public participation and revive the space. This may serve as yet another urban catalyst in the district.

6 Functional renewal of the private space in the private courtyard is expected to bring in more activities and ensure the active usage of the space.
7 Create or renovate four different spaces: private space, resting space (semi-open space), small group space (open space), centre space (open space). Since the area was lacking these spaces before, the design is expected to bring in a wide range of diversity into the spaces. It is also expected to provide the comfortable space for local communication and daily activities. Besides, this urban catalyst may as well stimulate the relationship between different neighborhoods.

8 Use the abandoned material from the district to create a new fixture used in the private space, resting space, small group space and the center space.

9 Consider the importance of tourism. Taking into consideration that Nanjings Folk Museum is located in the district, a new creative industry and handicraft studio may become additional tourist attractions in the future. Thus, the whole space (except of the private areas) will be also used by tourists.

10 Design the main entrance of Nanbuting. The main entrance of Nanbuting is a connection between the inside and outside areas. The entrance may thus enhance the connection with the new centre space.

11 Economic revival. Let the local residents take active role in the district’s revilization activity. It is also necessary to let the residents cooperate with the designers, gain profits from rent, manufacture handicrafts. These novelties are expected to revive the district economically. The income from tourist attractions may also be used in the Nanbuting district.

12 Care about the senior citizens. Senior citizens constitute the largest group living in the district. Therefore, the design of space and buildings, is to consider the life style and necessities of the elderly. I thus made the fixture of design suitable for the use by the elderly.

13 Add more public facilities such as markets, clinics, nursing centres, a center for seniors, a canteen and others. This is also expected to add convenience to the resident’s daily lives.
14 Rearrange and renovate the commercial-residential mixed buildings functionally and physically on Pingshi Street and Rongzhuang Street, providing the better living environment for residents and shopkeepers.

I conclude that by following the proposed re-designing of Nanbuting area, the historical value would be well preserved inside, and the area would revive in economic and physical ways due to the new urban catalyst implanted in it. The district itself contains preserved historical values, livable living conditions, abundant public facilities, diverse public spaces with the senior consideration, considerable income opportunities from creative industry and tourist attractions. The revitalization of Nanbuting district with a sense of affinity has thus been finally achieved.
CHAPTER 8 SUMMARY

Any historical urban quarter is one part of human history, it is a fortune of urban memory and our responsibility especially the urban planners’. Protection and utilization of the historical urban quarters is what we are to do collectively as a society, savoring the vitality and preserving the historical and cultural values for the next generations.

The revitalization of historical urban quarters is an urgent problem in China now, as many problems come about as a result of reconstruction and demolition. This thesis applies a theory of revitalization of historical urban quarters to a specific case in China, aiming to find possibilities and revive the district in a manner which would be more suitable for the modern environment. The thesis thus found answers to the main research question: How can the urban catalyst theory provide the theoretical framework to achieve the revitalization of urban quarters in a Chinese historical district?

In order to find answers to the posed question I started with the analysis of the historical urban quarters, revitalization, urban catalyst and found the connection between one another. This process revealed that the basis of preservation of the historical buildings is done with the purpose of maintaining the historical and cultural values and their integrity. The application of the urban catalyst theory, in its turn, stresses an adaptive approach to achieve the revitalization of historical urban quarters by solving physical, economic, image, functional obsolescence problems which the local residents face. Furthermore, the urban catalyst of the historical district is strategic and predicted and thus lets the local daily life and the historical preservation go to the right direction in the same pace. Meanwhile, the urban catalyst theory, combined with the revitalization theory, achieves the proven ingredients in district-space and buildings and describes how different spaces and buildings become potential elements for the district’s revival. This premise was applied to the design proposal, which dealt with revitalization of Nanbuting district in China.
The revitalization of historical urban quarters should be recovered from physical obsolescence, at the same time, considering the social and economic structures of the community. Its overall aim is to give the historical urban quarter a new life with vitality, affluent spaces being in use and building structure and functions revived in the whole district and the city. In order to meet the needs of modern life, it is meaningful to preserve and revive the historical urban quarter with catalytic reaction. The urban catalyst is not only to focus on the historical area, as the historical area itself could be a strong catalyst to revive the whole city. Thus, the main task of urban catalyst is to stimulate one point to another, to ensure interaction and revival of wider spaces. This may be labelled as a “non-stop” approach.

Through this approach, the historical urban quarters may avoid being blindly demolished. This would also preserve them from irreparable losses of historical buildings and spaces with historical tangible and intangible value. The preservation and revitalization of historical urban quarter should be renovated starting from small neighborhoods, in order to test the catalyst reaction in the district. If it works, the catalyst will stimulate the surrounding area quickly. Moreover, the designer’s plan may lead to the revitalization of the whole area. Therefore, both the planners and the municipal government are to follow this pattern, step by step from a small area to entire district, in order to attain revitalization of the whole historical urban quarter. As a rule a central district gets selected as a start, ensuring the revitalization of the whole city.

The urban catalyst theory also presents the idea that the revitalization of urban quarters will not destroy the genius loci. Simultaneously, the catalyst will enhance the value of existing ingredients or save them from being abandoned, keeping the historical texture. Therefore, the catalytic reaction is a basis of the revitalization of the whole district and not a monomer.

Nevertheless, since most of historical urban quarters have a long history with complicated situations and functions, and possess varying factors, such as the culture status, the geography site, the age of residents and others, and the analysis is to take those aspects into consideration. Analysis. Additionally, several unexpected problems which may appear during the implementation process, are to be taken into account.
The urban catalyst approach has become a popular topic of discussion in China during the past five years. This is a very suitable and multi-dimensional theory which if utilized, may provide China with solutions to its problems. The author’s intention is thus to continue within the chosen path of research. This thesis discussed the urban catalyst theory in revitalizing historical urban quarters from the perspective of urban design. The limitation of the discussion may have been caused by several lacking details in revitalization of social and economic aspects. Nevertheless, the author addressed several economic issues in the design proposal. Even though unpredicted consequences such as gentrification after revitalization are not discussed in the text, it is to be taken into consideration that historical urban quarters in different cities in China may have a varied and complicated situation. Besides, certain difficulty occurs in an attempt discuss all of them, especially when the theory proves to be suitable for the big cities in the east region or the whole area of China. Therefore, further research within this field may shade even more light on the problem. This however, remains to be a future task for other researchers.


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Other Sources Consulted


IMAGE SOURCE


Image 1-3 The location of Nanbuting,  Image 1-4 The context of Nanbuting,  Image 1-5 The four stages of Nanbuting Project  Source: Redrawed by author


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Image 7-36: Diagram of industrial area becomes creative industry

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Image 7-37: Good structure of buildings which residents can rent out

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Image 7-39: Traditional structure buildings with commercial on the first floor

Source: Made by author

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