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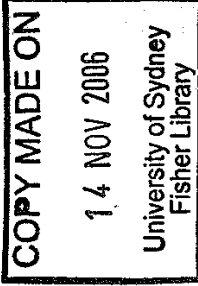
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NIRVANA OF TRADITION

The Rebirth of Courtyard Housing in Beijing



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A thesis submitted in fulfilment of the requirement for the degree of Master of Philosophy (Architecture)
Department of Architecture, Planning and Allied Arts
University of Sydney
August, 2000

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ABSTRACT

For centuries, courtyard housing has been the traditional housing in Beijing. Today, however, social change and the pressure of modern urban development have meant that the future of courtyard housing is in doubt. Many studies of courtyard housing have been undertaken with regard to the issue of conservation, while little research has been conducted on its cultural significance in the context of social change as part of modernisation. This dissertation attempts to propose a culturally conscious 'evolution' of traditional courtyard housing in the context of modernisation of Beijing.

The thesis first undertakes a historical study that reveals how traditional courtyard housing embodied traditional Chinese ideologies and beliefs, and how the physical environment of traditional courtyard housing was supportive of the Chinese way of life. Although modernisation has changed many expectations in relation to housing, courtyard housing can still contribute to the continuity of dwelling culture and the construction of residential identity. The thesis therefore suggests that attention should not only focus on preservation and restoration but also consider ways of drawing the valued aspects of this traditional residential architecture into contemporary housing forms.

By conducting surveys of the residents in Beijing, the study demonstrates that Beijing residents still aspire to a way of life that emphasises the qualities of privacy, territoriality, security and social solidarity, once achieved in traditional courtyard housing. It therefore seems desirable that new housing forms should attempt to embody these characteristics which are valued in the traditional housing form.

Inspired by some contemporary Western design theories and practices that explore how tradition might be drawn into contemporary architecture, the thesis concludes by proposing a way in which the 'principles' underlying traditional courtyard housing might be incorporated into the design of contemporary housing. In this way the thesis points to a possible 'rebirth' of traditional courtyard housing in another form.



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INTRODUCTION: Courtyard Housing — A Life

Background and Significance

This research was inspired by the author's feelings towards courtyard housing neighbourhoods in Beijing, by a concern for the experiences of many people in the city who are undergoing a shift of lifestyle from traditional housing to modern apartment living, and by a concern that the city of Beijing is losing its cultural identity in the process of modernisation.

The unique cultural heritage of traditional courtyard housing in Beijing has reached a critical situation. Courtyard housing has developed from traditional Chinese dwelling culture, ideology, aesthetics and values. It provides a unique living environment which reflects the social structure of feudal society in which this form of dwelling was born. In the last seven hundred years, courtyard housing (Fig.1) has enjoyed its 'youth and midlife' as the typical domestic architecture of Beijing. But now it appears that with the process of modernisation, courtyard housing may be reaching its end of life (Fig.2). As well as rapid changes in technology and economic structures, the process of modernisation over recent decades also brought changes to the social structure. These changes have altered ways of dwelling and changed people's expectations of housing. Because of its low density, poor facilities and infrastructure, courtyard housing has been seen as an obsolete and outmoded residential form, and inadequate for the needs of modern life.

In order to meet increasing needs and modern dwelling requirements, since the 1950's, modern apartments (Fig.3) have been introduced onto Beijing housing market. Traditional

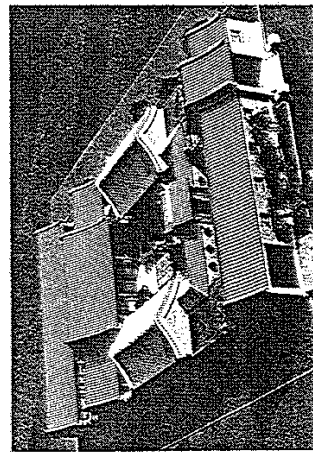


Figure 1: Traditional courtyard house.
(From Ma 1999: p.9)

courtyard housing is thus being replaced by more contemporary and higher density residential forms. As a residential type courtyard housing is quickly disappearing.

Interestingly, the accelerating pace of change has been paralleled by an increasing interest in the past and by an intense concern from both domestic and foreign observers that traditional cultural values are being lost. As a cultural phenomenon, courtyard housing has become the object of study for many scholars in architecture and city planning (for example Ma 1993; Wu 1994; Lu and Wang 1996). The Beijing Municipal government has made some attempts to preserve its heritage value. These attempts include the declaration of the heritage areas in Xisi and Southern Luoguxiang (Fig.4) in 1985; and the designation of more than 40 individual courtyard houses as conservation buildings in 1988. There have also been a limited number of redevelopment projects in inner Beijing. Most of these projects have attempted to replicate traditional courtyard housing in modern housing design, but have failed to recreate the social and cultural values associated with courtyard housing. The exception is Juer Hutong reconstruction project which has had limited success in meeting socio-cultural needs but not yet managed to develop an appropriate management model for planning registration, financial management and the re-accommodation of residents. A set of principles that can guide other housing design projects is also absent.

Among the chief questions that this thesis therefore addresses are: What can be done with this traditional housing form besides the passive act of conservation? Does courtyard housing contain other possibilities beyond those of historical heritage? How can modern needs be addressed while still preserving the cultural significance of courtyard housing?

It has been argued that the conservation of courtyard housing does not appear to be a viable option, unless a way of integrating courtyard housing into modern life can be found (Wu 1994). No matter how many courtyard houses and neighbourhoods are preserved, they can

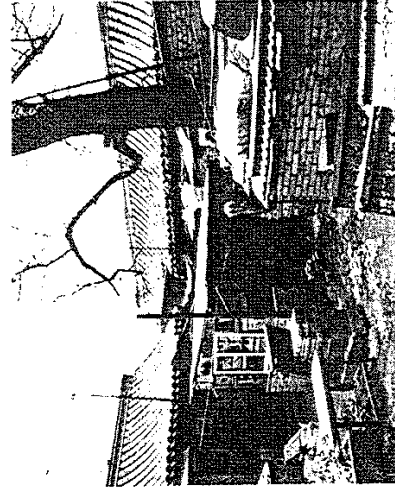


Figure 2: Decaying courtyard house.
(By author, Dongsi, October 1998)

hardly be expected to retain the condition of the original residential environment. The preserved courtyard houses and the neighbourhoods serve only as 'dead' museums for the visitors and scholars who are interested in residential culture (Abramson 1997). In addition, although it is recognised by the government that the residential character of the old city of Beijing should be preserved, the further gentrification of the inner city area seems inevitable, especially given that the current Beijing municipal government is parcelling out building sites to investors to solve its financial and housing problems (Chang 1998). The gap between what courtyard housing offers and the expectation of modern living therefore appears to make the shift from housing from courtyard housing to modern apartments inevitable.

While there have been many studies of courtyard housing undertaken by architects and academics with regard to the issue of conservation, little research has been conducted on the cultural significance of the built heritage in the context of social change accompanying modernisation. This study takes as its premise the belief that attention should focus not only on preservation and restoration but also on considering ways of drawing traditional residential architecture into the contemporary social context — pointing to a possible 'rebirth' of traditional courtyard housing in another form. To this end, this thesis seeks to understand culturally significant aspects of courtyard housing with a view to integrating those features into contemporary housing design.

Research Objectives

The research objectives of this dissertation are therefore two-fold:

1. To investigate those design principles underlying traditional courtyard housing that contribute to the unique Chinese cultural way of life.
2. To determine whether and how such traditional design principles might usefully be adopted

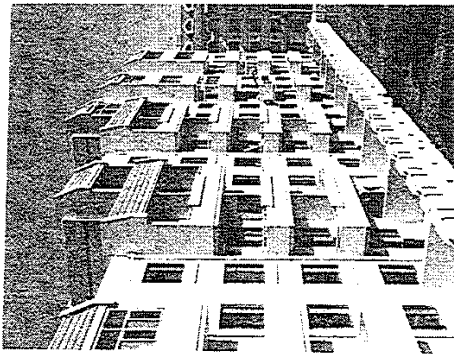


Figure 3: Modern apartments.
(By author, Qianmen, October 1998)

into modern housing design.

Research Methodology

Housing form is the result of a complex system comprising many features: culture, technology, politics, economics, and government policy. The thesis will focus primarily on the socio-cultural aspects of courtyard housing form with reference to its applicability and relevance for today. An historical methodology is used to analyse the physical and socio-cultural aspects of traditional courtyard housing. This analysis is based on a review of both Chinese and English literature (including published and unpublished dissertations) discussing the transformation of traditional courtyard housing in Beijing and analysing the relationship between society, culture, built environment and human behaviour in the courtyard housing environment. Whilst a number of other factors such as economic, political and technological conditions affect housing needs and trends, these have not been considered in detail for this study as they are beyond the scope of the research.

The second aspect of the research methodology of this thesis is an examination of the socio-cultural changes in contemporary Beijing in relation to housing requirements. This aims to address the current condition of courtyard housing and to identify residential satisfaction with courtyard housing during social transition. Besides a literature research, the approach used involved (i) carrying out a sample survey of residents in Beijing, (ii) undertaking interviews with residents in a courtyard housing neighbourhood, and (iii) evaluating a courtyard housing development project. The methodology for conducting the surveys is described fully in a later chapter and further information about the surveys is contained in the appendix. While conducting the field studies, direct personal observation and drawing records were also made.

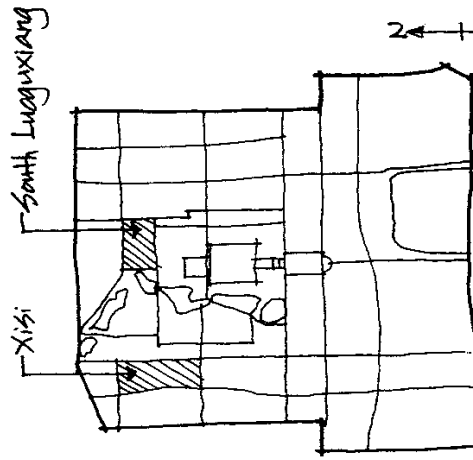


Figure 4: Conservation areas in Beijing.
(By author)

During the course of writing this dissertation, two field trips were undertaken to Beijing, in October 1998 and September 1999 respectively, to collect data and further information was gathered from various sources in China and Australia. Because the writing of the dissertation has been undertaken in Australia, it has sometimes been difficult to locate potentially relevant material. In addition, because of time and financial constraints, the survey and interviews of residents were confined to a select sample group. Accordingly, the statistical coverage of the resident responses is limited.

Literature Review

No single body of literature exists which covers all of the issues examined by this thesis. Rather, many texts touch on areas that are part of the scope of this research. The different domains of literature include texts on traditional Chinese society; texts on the history of Beijing and history of traditional housing; texts on courtyard housing and modernity; texts on culture, human behaviour and built environment; and texts on housing design. Each of the literature categories is now examined in turn.

Literature on Traditional Chinese Society: Of the several different bodies of literature, the first can be generally placed under the rubric of texts about 'traditional Chinese society'. Within a few weeks of starting the research, it quickly became clear that the life of the Chinese people and their architecture are closely linked to their ideologies. It was therefore important to obtain a basic understanding of traditional Chinese society in which these ideologies emerged. This group of writings includes those of Lang (1946) and Wang (1997), who analyse Chinese traditional society in terms of social structure, family, and human relationships. They state that

Chinese traditional society provided the social, cultural and political background for the emergence of Chinese ideologies in which Confucianism was dominant.

Chinese ideologies played an important role in traditional society and were reflected in both architecture and cultural life. The work of Fung Yu-Lan (1960), a contemporary professor of philosophy who presents a brief history of Chinese philosophy, offers a clear understanding of Chinese ideologies in relation to Confucianism and Taoism. The work of Doebelin (1942), Wang (1986) and Kierman (1981) offers a good though less comprehensive accounts. The key contents of these texts are discussed in the first chapter.

A limited reading of Chinese cosmology — *Feng Shui* — was also included to facilitate an understanding of particular aspects of Chinese architecture. Key texts here are those of Wang (1992) who investigates the *Feng Shui* theory and its influence on Chinese architecture and urban planning, and Xu (1998) who examines how *Feng Shui* models structured Chinese courtyard housing. These authors' ideas are employed in the discussion in later chapters.

Literature on Beijing's Courtyard Housing in A Historical Context: A second group of texts is categorised under the rubric of a 'history' of courtyard housing in Beijing. These texts relate to Chinese urban planning and architecture in general, and the transformation of the city of Beijing and courtyard housing in particular. They constitute a historical framework within which to situate an examination of Chinese life in the built environment. They include texts by Chinese architects and urban planners such as Wu (1986), Lu and Wang (1996), Chen (1993), and Liu (1989). Also included in this group are works of Western architectural scholars such as Boyd (1962), Blaser (1995), and Schoenauer (1981) who have a special interest in Chinese architectural heritage. These authors present descriptions and explanations of Chinese architecture and urban planning in terms of its history, construction, ideological foundation and

design principles.

Also included in this group are texts that deal more specifically with traditional Chinese domestic life. Key authors here are the Chinese writers Han (1997) and Ding (1997). These authors argue persuasively that the cultural context of dwelling in China has been greatly influenced by Chinese ideologies in which Confucianism, Taoism and *Feng Shui* theory have played important roles. This reinforces the necessity of examining Chinese ideologies as the setting for understanding the role of traditional housing. These texts also provide the physical, historical and, to some extent, ideological understanding that is a prerequisite for examining the possibility of a contemporary role for traditional housing.

Literature on Courtyard Housing and Modernity: The third group of texts can be generalised as literature relating to modern housing. Of particular importance are those texts that refer directly to the conflicts between traditional housing and the modern processes of urbanisation in China. They investigate social changes in relation to housing, and explore developmental strategies for housing in China. This group includes texts by the Western scholars Kirkby (1985), Whyte and Parish (1984), Mann (1984), and Pennypacker (1988). They propose a search for architecture based on a Chinese interpretation of form, space and modern technology, while still responding to the cultural heritage inherent in traditional housing.

Works by Ekblad (1991) and Yan and Marans (1995), who have conducted surveys in Beijing, provide some of the statistical data used in this dissertation. These authors are concerned with modern city dwellings in China and their impact on Chinese life. Comparing different housing types, they conclude that traditional courtyard housing satisfies psychosocial needs, while its structural conditions are disadvantages.

Also included in this group is a cluster of texts by Chinese designers and planners who

have specialised in housing development in the urban context of city renewal in Beijing. Included are the architects and urban planners Zhang (1997), Lin (1991), and Dong (1987). They identify some housing problems in China and propose some strategies for housing development and urban planning in terms of building height, density and housing type.

However, the most significant works within this group are those that address the question of the future of courtyard housing. Among them, the text by Casault (1988) provides a reading of what is currently changing and what has remained constant in the courtyard-housing neighbourhoods of Beijing. Dissertations from Tsinghua University written by Song (1988), Tan (1997) and Abramson (1997) examine the potential role of courtyard housing in the process of city renewal. Moreover, in his book *The Old City of Beijing and its Juer Hutong*, Wu (1994), a city planner and architect, puts forward a proposal for 'organic renewal' of the city by developing a new courtyard housing type instead of modern high-rise and middle-rise apartments. These texts provide a practical foundation for this dissertation, and also allow an encounter with materials which provide both a critique of courtyard housing, and attempt to develop possible alternative design strategies in order to maintain cultural continuity.

Literature on Culture, Human Behaviour and Built Environment: The important works within this fourth group are those describing the relationship between culture, human behaviour and the built environment as part of a social system. They provide a human behaviour and built environment research perspective which examines housing as a response to social change. This group of texts include the work of sociologist Michelson (1970), who presents a sociological approach to the study of man and the built environment, and texts that analyse people and their built environment from the perspective of environmental psychology (Proshansky et al 1970). Bechtel, Marans and Michelson (1987) provide the methodological

foundation for the environmental and behavioural research used in this dissertation.

Gradually, the works of particular authors' began to stand out more than others in the arguments being woven into the thesis. Rapoport is one of these. His work *House Form and Culture* (1969) broadly examines housing as an expression of the way of life in different cultures. In terms of this study, the most significant aspect of Rapoport's work is his recognition that housing, as an aspect of the built environment, has socio-cultural meanings which are passed down through generations by 'encoding' them as cues in the physical environment (Rapoport 1982). These physical cues, such as walls, gates, colours, materials, and house styles, reinforced by people's activities, combine to communicate social meanings. Such cues, which may have existed in a traditional environment, may be set up through the use of modern materials if the pattern of the physical environment expresses elements of the core culture (Rapoport 1979). In traditional settlements, however, these subtle cues are often not visible to the outsider at first glance. Only by observing human behaviour in the residential context and through systematic studies can the cues be discovered.

Another author, Altman, is interested in how peoples' behaviour and their culture affect the built environment, and, reciprocally, how physical environments affect both the culture and people. The three are considered as a unity, and work together in an integrated way (Altman 1980). Aspects of the environment and environmental behaviour, such as privacy, personal space, territory, and crowding, are examined to enable a better understanding of the relationship between culture, people, and the built environment (Altman 1975). In terms of housing, Altman argues that the home displays the activities and characteristics of its occupants and their culture, and is also an indicator of the impact of social changes on people and culture. This offers a way of examining the effect of various types of social change on the housing-culture linkage, and how housing is used as a mechanism by the occupants to cope

with social change (Altman 1983). He also argues that although it is crucial to assess the degree to which various alternative designs are compatible with cultural values embodied in traditional housing designs, it is usually impossible to recreate traditional designs in a new setting due to a host of factors. The objective therefore is not to require the physical duplication of traditional home designs. Instead, efforts should be made to incorporate the functional capability for people to express cultural values which are equivalent to that of traditional housing in the new housing form (Altman 1983). The contribution of Altman's works to this study therefore lies in providing a method of examining the relationship between culture, people, and built environment via the lens of human behaviour and in conceiving a way of incorporating traditional housing forms into modern design.

Literature on Design: Because this dissertation concludes by considering the design implications of its own findings, the body of literature on design, particularly residential design, is significant. In this group, there is a broad body of texts that address the cognitive understanding of the man-made environment, especially in the urban context. They provide a vantage point that allows the design process to be located within a larger discourse which is responding to the transformation of housing forms. Included here are works by Newman (1972), Hall (1966), and Hester (1984) which define residential space in terms of privacy, security and territory. These texts provide a means for this dissertation to analyse residential spaces.

Also in this group are works of the design theorists Norberg-Schulz (1980) and Relph (1976), which are concerned with the manipulation of spatial relations and with the creation of meaningful places for human dwelling. The works on the New Urbanism (Katz 1994) and Regionalism (Frampton 1983, Tzonis and Lefaivre 1990), which attempt to maintain the spirit

of the place by integrating traditional elements into a modern context, have given great inspiration to this study. In addition, Alexander's *A Pattern Language* (1977) presents methodological descriptions of the design process and provides a complete working alternative to architecture, building, and planning.

Dissertation Structure

This dissertation is organised into five chapters which track the progress of the research.

Chapter 1: *Birth and Growth* — studies the traditional contexts of Beijing and its courtyard housing. A brief introduction to Chinese traditional society and its ideologies is included to assist an understanding of the historical and social context of courtyard housing. The history of Beijing and Chinese urban planning is discussed in order to further explain the traditional role of courtyard housing. An overview of courtyard housing in China and the history of courtyard housing in Beijing provides a background for subsequent sections of the dissertation.

Chapter 2: *Body and Soul* — investigates the physical form and socio-cultural context of courtyard housing in Beijing. By examining courtyard housing as an embodiment of Chinese tradition, the cultural meaning of traditional courtyard housing is articulated and elaborated. The understanding arising from this chapter is used to ground potential design proposals for the evolution of courtyard housing in Beijing.

Chapter 3: *Karma and Effect* — examines the modernisation of Beijing and its impacts on courtyard housing. A range of changes to dwelling requirements is studied in relation to the changes in politics, economics, and culture. The current urban planning system is examined as context for understanding the development control context within which the traditional courtyard housing struggles to survive. By discussing present conditions, the problems and

possibilities, of courtyard housing in relation to the impacts of modernity, this chapter frames the subsequent discussion of the potential future of courtyard housing.

Chapter 4: Practices and Insight — analyses the results of some investigations of residents' satisfaction with courtyard housing. This chapter includes a survey and interviews conducted by the author, together with a post occupancy survey of a courtyard housing reconstruction project — Juer Hutong. The desirability of maintaining the design qualities of courtyard housing is affirmed by the residents' responses to the reconstructed courtyard housing environment.

Chapter 5: Meditation and Enlightenment — reviews contemporary Western design theories and practices that have attempted to address the question of maintaining the cultural identity of dwelling form in the face of modernity. The previous chapters have established that some aspects of the courtyard housing environment remain important to the requirements of modern life in Beijing, even if the physical form of dwellings may need to be transformed. Based on the theoretical and practical reviews, this chapter identifies the fundamental elements of traditional courtyard housing environments with a view to integrating these aspects into contemporary housing design.

Conclusions: Rebirth — seeks proposals for the evolution of courtyard housing by integrating fundamental elements derived from traditional courtyard housing environments into new housing design. The proposals are designed to be applicable to contemporary housing development in Beijing. In so doing, the 'rebirth' of traditional courtyard housing might be engendered in a modern housing form.

CHAPTER ONE: BIRTH & GROWTH

----- Ideological and Historical Context

1.1 Introduction

For an insight into traditional courtyard housing in China, it is necessary to first understand the history and ideologies from which the complexities of the Chinese socio-cultural system stem. In this chapter some aspects of Chinese tradition are investigated and key elements of traditional Chinese urban planning and architecture are discussed, particularly as they relate to the city of Beijing and its courtyard housing. This historical examination is fuller and more detailed than might normally be expected in a work focused on a built form. The logic of this approach being that it is not necessarily the preservation of individual buildings that is the conservation issue, of equal importance may be the embodiment of traditional values and customs in any new development.

This chapter begins with a general overview of traditional society, followed by a brief introduction to Chinese ideologies — Confucianism, Taoism, Buddhism and *Feng Shui* theory — all of which are significant in Chinese tradition. The second section of this chapter examines Chinese urban planning and its practice in Beijing, where courtyard housing evolved. This is followed by an overview of the courtyard housing system in China and its gradual transformation in Beijing.

1.2 Chinese Social and Ideological Context

Since the first dynasty, called Xia (1994-1523 BC), founded by the emperor Yu, China has remained a sovereign state for almost 4000 years. The feudal epoch lasted 2,132 years from 221 BC until 1911, when the last boy Emperor was overthrown by a small military uprising in central China. China went through a series of dynasties: Zhou, Chin, Han, Sui, Tang, Sung, Yuan, Ming and Ching (Fig.5), during which the Emperor held supreme power (Boyd 1962). From 1911 to 1949, China underwent turmoil, fed externally by foreign aggression and internally by civil war. The People's Republic of China was proclaimed in Peking (now Beijing) on October 1st, 1949, after an eight year struggle against Japan and four years of civil war. China then embarked on a process of modernisation.

Politics, Economy and Social Structure

Since ancient times, the geography of China has influenced its economic base, which is predominantly agricultural. In turn, China's traditional agricultural economy has greatly affected its culture, politics and social structure.

In an agrarian country, land is the primary basis of wealth. Hence throughout Chinese history, social and economic thinking and policy have centred on the utilisation and distribution of land. China was more concerned with producing goods for its own consumption than trading with other countries. To some extent this economic characteristic of ancient China, together with its ideological system, had the effect of isolating Chinese people and traditions from external influences (Fung 1960) (Fig.6).

The agricultural character of China influenced many aspects of social life. Because

Shang-Yin Dynasty	ca. 1766-ca. 1122 BC
Chou Dynasty Warring States Period	ca. 1122-221 BC 403-221 BC
Ch'in Dynasty	221-206 BC
Han Dynasty Eastern Han	206 BC - 220 AD 25-220
Six Dynasties Northern Wei Period Northern Ch'i Period	ca. 220-581 366-534 550-577
Sui Dynasty	581-618
Tang Dynasty	618-907
Five Dynasties	907-960
(Northern) Sung Dynasty Liao Dynasty	960-1126 917-1125 (in North China)
(Southern) Sung Dynasty Chin Dynasty	1127-1279 1115-1234 (in North China)
Yuan Dynasty (Mongol)	1279-1368
Ming Dynasty	1368-1644
Ch'ing Dynasty (Manchu)	1644-1912
Republic Sino-Japanese War	1912-1949 1937-1945
People's Republic	1949-

Figure 5. Diagram of dynasties in ancient China.
(From Boyd 1962: p. 162)

production was more important than exchange, farmers were higher than merchants in social status. Although scholars did not actually cultivate land themselves, since they were usually landlords, their fortunes were tied up with agriculture. In addition their education gave them the power to express what farmers felt but were perhaps unable to express themselves. This expression took the form of Chinese philosophy. China's intensive agriculture required not so much physical strength as a high degree of thoroughness, care, and experience — qualities which increase rather than decrease with age. Thus developed the lofty position of the elderly man in Chinese civilisation which was emphasised by Confucianism in strengthening authority in the family and the state (Fung 1960).

The farmers had to live on their land, which is immovable, and the same was true of the scholar landlords. Usually, one had to live where one's father and grandfather lived, and where one's children would continue to live. Thus developed the Chinese family system, which also formed the social system of China.

'Jia' is the Chinese word for the home (the dwelling), the family, and the related members of the household who occupy it. It is interesting that 'Jia' is also used in the Chinese word for 'country'. It reveals a significant aspect of the Chinese belief that the country as a whole is seen as a vast super-set of the family unit. Stress was also laid on the concept of the family as a concrete and basic component of the entire social fabric. This is also the basic idea of Confucian philosophy.

The traditional Chinese family ideally consisted of a father and a mother, sons, unmarried daughters, sons' wives and children, and so forth, for as many generations as possible. The father possessed the name and the family estate which was transmitted from father to son (Lang 1946). The family system in China also had very important administrative functions. The household in many periods of Chinese history was the basic unit in the state

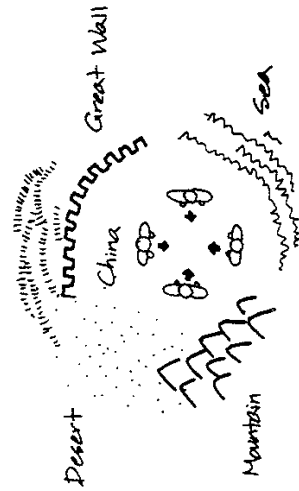


Figure 6: Isolation of Chinese people.
(By author)

administration.

Underlying the family proper was the clan (Fig.7). This consisted of all the families that bore the same clan name and had the same original ancestor. The clan was linked by the worship of the first ancestor who had established himself and his descendants on the land (Ding 1997).

Ideological Context

The vicissitudes of society were paralleled by a flux of ideas. Throughout the long course of Chinese history, many ideological systems were founded, and they deeply influenced Chinese thought and hence Chinese life. Taoism, Buddhism and Confucianism all contributed to the formation of Chinese ideas and permeated throughout society, as did the Chinese geomancy — *Feng Shui* theory.

Taoism & Buddhism

In China Taoism took shape only gradually. No precise date can be set for its birth, and the integration of elements into it never ceased. Unlike Confucianism, which had an official status in society, Taoism had a marginal, informal nature. However, it was of no lesser influence than Taoism in Chinese society (Maspero 1981).

The most pervasive Taoist concept is that of *Tao* (道), the 'way', which means the unseen reality lying behind appearances. Taoists consider themselves to be the masters of life and death, able to transform themselves into different states and capable of transforming the world. But they have no will of their own and practised *Wu-Wei* (无为) or 'non-action'. They

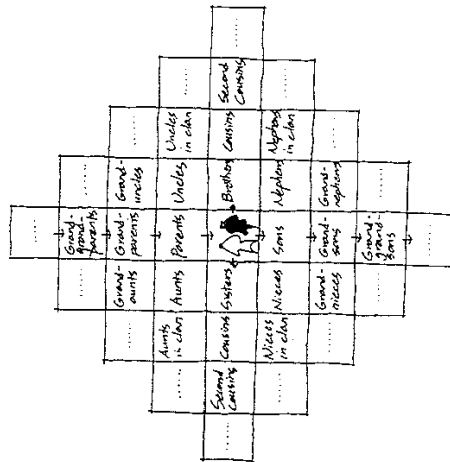


Figure 7: Diagram of clans.
(After Ding 1997: Fig.9-1)

also believe in letting the world follow its 'way', or its *Tao*, which is possible only when nobody interferes.

Taoists (Fig.8) believe that human beings had numerous souls which are dispersed at death. Therefore they seek to obtain the immortality of the material body, the abode of souls, by studying the *Tao*. Methods of achieving immortality vary considerably. An underlying idea is that steps could be taken to preserve or enrich one's *Qi* (氣), which literally means 'breath' and refers to the energy out of which the world is formed. Breathing exercises are recommended to preserve *Qi* in the body and absorb *Qi* from outside the body. Alchemy is conceived by Taoists to obtain immortality. Meditation is also taken as an internal process to pursue immortality. Taoists believed that the gods who could give instructions concerning immortality existed in the macrocosm of the outside world as well as the microcosm of the human body. A system of meditations was therefore employed to visualise the gods within.

At the same time that it seemed Taoism would become the national philosophy of the Chinese, a foreign religion was introduced into China and brought to China a new philosophy. Buddhism (Fig.9) reached China from India around the first century AD (Maspero 1981). At first, Buddhism fascinated Chinese people because it, superficially at least, resembled Taoist concepts. But a proper understanding of Buddhism showed that the two doctrines were in fact very different in all fundamental respects.

Buddhism denied the very existence of the personality — there was no 'Me' in Buddhist philosophy. The human body, like all created things, was essentially impermanent. Buddhists believed that existence was suffering. To escape this suffering one must seek Nirvana, the only mode of existence which was permanent and which did not lead on to death followed by rebirth. Thus deliverance was possible only for the people who believed in the word of Buddha and practised his law (Maspero 1981). In sum, Buddhism in China followed the doctrines of



Figure 8: Portrait of Laoze
(From Xu 1997: p.135)

Indian Buddhism but was endowed with a Chinese character in both worship and practice.

Confucianism

Confucianism originated with Confucius¹ (Fig.10) during the chaos and turmoil of the Chun Qiu period (772-481BC). His ideas were later amplified by his disciples. In the Han Dynasty (206BC-220AD), because it gave metaphysical justification for the regime, Confucianism became entrenched as an orthodoxy (Fung 1960).

The doctrines of Han Confucianism combined the social order from two of the other rival schools: the *Yin-Yang* (dual complementary forces, negative and positive forces, or female and male) (阴阳) (Fig.11) and the *Wu-Xing* (Five Elements: metal, wood, water, fire and earth) (五行). The very core of Han Confucianism was the concept of the deeply interwoven relationship between heaven, nature and humans. According to Han Confucianism, the will of heaven was reflected in the process of mutual promotion and restraint between the Five Elements, and the way *Yin* and *Yang* complemented each other. The eternal *Heavenly Tao* (天道) was the metaphysical power which dominated the motion of the Five Elements and *Yin Yang*. The basic principles of the human world were embedded in the classical social order; ethical and political institutions were the very consequences of the harmonious, cyclical and perpetual motion of the Five Elements and *Yin-Yang*. The only legitimate ruler of the human world was whomever heaven had granted the mandate to guard these basic principles, and

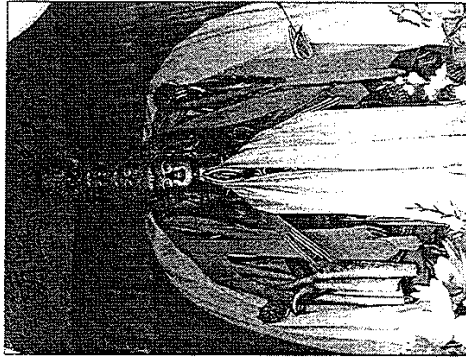


Figure 9. A statue of Guanyin, Goddess of Mercy, worshipped widely in China. (From Xu 1997: p. 115)

¹ Confucius was born in 551 BC in a village of Shan Dong, China. His ideas are best known through the *Lun Yu* or *Confucian Analects*, a collection of his scattered sayings which was compiled by some of his disciples (Fung 1960).

the chosen ruler must keep themselves virtuous and competent enough to fulfill this mission (Fung 1960).

Confucianism in the Sung Dynasty (960-1279) as interpreted by Zhu Xi (1130-1200) was called Neo-Confucianism. The *li* (the principle)(理) and *Tai-Chi* (the supreme, the ultimate, or the highest ideal prototype of things)(太極) were the essential concepts of Neo-Confucianism. All things in the world, if they were to exist, must be the embodiment of some principle in some material. So *li* was inherent in everything, whether the thing was natural or artificial. The *Tai-Chi*, which embraces the multitude of the *li* for all things, was the supreme, ultimate standard of the universe as a whole. There was but one supreme, ultimate, which was received by each individual in its undivided entity. So individuals were the perfect reflection of a great whole; hence they were homogeneous and self-contained.

Confucianism emphasised the compliance with the *Heavenly Tao*. The harmonious tranquility of human society and the equilibrium of the soul should and could be achieved only if humanity complied with the human *Tao*, that part of the *Heavenly Tao* which was inherent in the human world. *Li*² (the ritual system and the proprieties) (禮) was seen as the only reasonable social order of the human world. According to Confucianism, *Li* was the prototype of the social order and the manifestation of the human *Tao*. The existence of the *Li* was therefore the prerequisite for the prevalence of the human *Tao* (Wang 1986).

According to Confucianism, the *Heavenly Tao* was inherent in the nature of human beings. Through personal rational introspection and educational guidance, the principle of

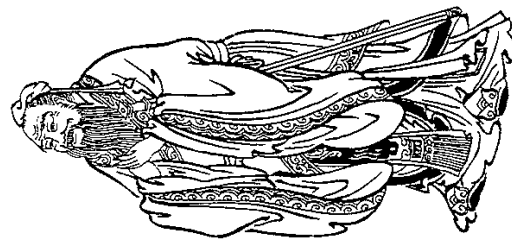


Figure 10: Figure of Confucius.
(From Xu 1997: 141)

² The connotation of the *Li* is the feudal canon and social institutions, the proprieties of one conducting oneself in society, and the norms of keeping the society with ritual system (Fung 1960).

human *Tao* was understood to appear naturally. However, according to Confucianism, the principle of human *Tao* was not equal to love, and it emphasised gradation in 'loving others'. That is to say, Confucianism considered that there was a gradation in human relations, and this gradation principle exactly reflected in the practice of human *Tao* (Fung 1960).

Confucianism believed that the limited life span of the individual was not independent of, but a vital link to, the endless life of their family. For the individuals, the primary object of the practice of human *Tao* was their own family. Hence, filial piety was the root of family ethics in Confucianism. A single family was a unity with hierarchy and patriarchy, and continuity of father and son was the kernel of the family structure. The expansion of filial piety was the piety towards the 'Son of Heaven' — the emperor, who was the very root of social ethics. Confucianism thus provided reasoned justification for both the Chinese traditional ancestor cult, and the relationship between the establishment of harmony in the household and the government of the state. For individuals, the most reliable human relations were their family relations; the family boundary between insiders and outsiders was thus justified. Accordingly, social relations were considered an expansion of family relations. Based on these very familial ethics, *Li* became established as a rigidly hierarchical norm of social relations.

According to Confucianism, the *Great Harmony* of the world was the prevalence of human *Tao* and *Li*. Confucianism firmly believed that harmony within the empire's court would result in a prosperous and powerful reign. Harmony within the family and with nature would bring good fortune and health to the household. Inner harmony and moderation of the self could bring a well-balanced character, and was the very aim of self-cultivation. Thus Confucianism produced the utility both to assist the proper progress of the world and to achieve the moral development of each individual (Maspero 1981).

Since its establishment in the Han Dynasty (206BC-220AD), Confucianism has been the

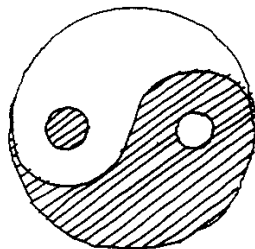


Figure 11: Yin and Yang.
(By author)

dominant philosophy. Over time it was transformed to meet the spiritual interest and needs of whichever era was current, and to solve the emerging problems of contemporary society. Through education in orthodox Confucianism and the various other cultural media, Confucianism has shaped the national consciousness of Chinese people.

Feng Shui (風水) Theory

Feng Shui stemmed from ancient Chinese geography. It has been influenced by Chinese philosophies and aestheticism throughout the course of Chinese history. After thousands of years of development, *Feng Shui* theory was formed and embodied Chinese ancient geology, ecology, meteorology, landscape design and architecture.

Feng Shui took into account many factors, from spiritual to physical, from temporal to spatial, as well as from human life to nature. Traditionally, Chinese people believed that the way to live was to unite nature and people as a whole, in other words, to gain 'harmony'. The major goal of *Feng Shui* was therefore find a way to live in harmony with heaven, earth and other people (Wang 1992).

According to *Feng Shui*, the sky was the father who fertilised mother earth with *Qi* (气), the breath or vital energy that brought health, peace and luck, thus producing the world and all lives that inhabited it, including human beings. The earth took the shape of a square while the sky took the shape of a dome covering the earth. *Qi* was carried by water (*Shui*)(水) and moved by wind (*Feng*)(风). The application of *Feng Shui* to Chinese city planning and architecture had one major aspect: arranging *Qi*. The essential principles in site selection of city and architecture were to avoid the cold wind that blew *Qi* away and to encourage water that brought and accumulated *Qi*. The significant aims in planning the built environment were

to arrange *Qi* and balance *Yin* (the female, the dark, the dead, and the still)(阴) and *Yang* (the male, the light, the living and the moving)(阳), in order to gain harmony and invite happiness and prosperity.

According to *Feng Shui*, a favourable site for a dwelling, a village, or a town was enclosed by surrounding hills, which symbolised the mother's protection. The site should face south with a lake or a river in front of it. In such a space, living *Qi* abounded (Fig. 12). The ideal *Feng Shui* space should also balance *Yin* and *Yang*. According to ancient *Feng Shui* texts, mountains were *Yin*, while water was *Yang*; the solid was *Yin* and the void was *Yang*. In an ideal site, *Yang* was enclosed by *Yin* to bring prosperity.

Many *Feng Shui* practices of site selection and building arrangement were closely linked to *I Ching* diagrams. *I Ching* is the ancient Chinese cosmology, dating from about 3000 years ago. In *I Ching*, eight azimuths (Fig.13) were used to represent eight natural phenomena and the interaction between *Yin* and *Yang* was applied to interpret the transformation of the universe. Representing the ancient Chinese perceptions of heaven, earth, human being, time and space, the diagrams were believed to be the ideal models indicating a harmonic relationship within the world.

Feng Shui divination held great psychological importance for traditional Chinese people as a means of avoiding evil fortune and attaining good fortune. By stressing the importance of central control in the family as well as in society as a means of capturing prosperity, *Feng Shui* principles were interpreted to reflect and reinforce the strict class system of traditional Chinese society.

The ancient practice of *Feng Shui* was intricately involved in every aspect of traditional Chinese life, from selecting a site for a house, temple, grave, or city to choosing a day to get

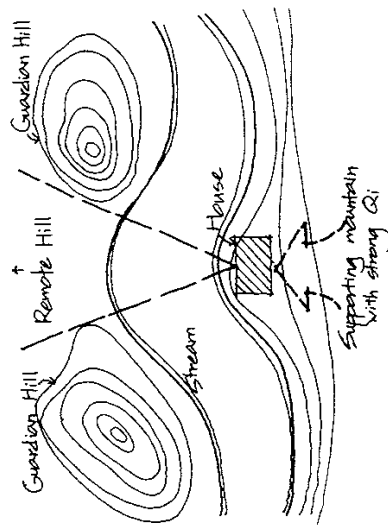


Figure 12: An ideal site in *Feng Shui* theory.
(Provided by the author)

married. In modern society, *Feng Shui* theory is still considered by some Chinese people in constructing a house or buildings and has even become influential in Western countries.

1.3 Historical Context of Courtyard Housing

Chinese urban planning and architecture is the product of a long tradition in which Chinese ideologies such as Taoism, Confucianism and *Feng Shui* theory have played a very important role. These ideologies and related elements of traditional society influenced the development of the city of Beijing. Beijing city provided the urban context for the emergence of courtyard housing, one of the most characteristic housing forms in China.

Traditional Chinese Urban Planning and the City of Beijing

Beijing has had over 2000 years of city planning and construction. As the national capital, the city of Beijing reflected all the traditional culture of Chinese urban civilisation. Above all, it is the best manifestation of traditional Chinese urban planning theory.

Traditional Chinese 'Utopian City' Theory

The ancient texts of *Chou Li* (周礼) set out the principles for traditional city planning. It is believed that the texts date from Han times (206BC-220AD) when Confucianism prevailed (Wright 1977). They describe the method of choosing and preparing a site and determining the orientation of buildings. The last text sets out directions for the layout of the city, known as *Kao Gong Ji* (The Artificers Record) (考工记).

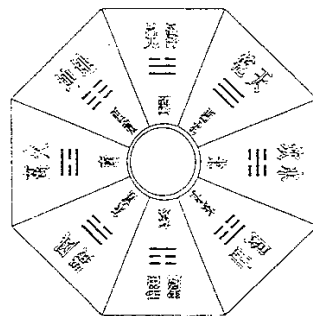


Figure 13: Eight Azimuth in the I Ching.
(From Ma 1999: Fig.3-3.1)

Clearly based upon the doctrines of Confucianism, the *Kao Gong Ji*'s prescription of an ideal city has symbolic meanings reflecting the imperial ideology. The planning principles that proceed from ceremonial rites are formal and regular in design (Fig.14). In terms of the form of the city, the Chinese believed that the earth is a square and the heaven is a dome, thus the ruler, as the sovereign, should live in a structure that was a replica and a symbol of the earth. According to the *Kao Gong Ji*:

"The master builders who laid out a capital, made it a square and nine *li* (about three miles)(里) on a side, each side having three gateways. Within the capital city there were nine lengthwise and nine crosswise avenues with the width of each avenue nine-chariot tracks or axle width" (Liu 1989: 33).

Three, nine and twelve were particularly important numbers within official Confucianism. Three represented the three sectors of the intelligible universe (heaven, earth, and human beings); nine was three times three and represented the nine provinces established by the first emperor of China; twelve was the sum of three and nine and the number of months in a year. The north-south streets had greater width, which emphasised the orientation of the city toward the south; and the fact the streets were nine in number gave importance to the central avenue which approached from the south. Moreover, the prescription of a grid plan as a norm for capital cities was but one example of the ordering of space by the use of grid schemes of which the basic pattern was nine equal squares arranged in a larger square.

The *Kao Gong Ji* states that the palace shall be placed at the centre of the city symbolising the centralised power of the emperor and the authority of the dynasty. In front of the palace is the court, and behind it the market place. The ancestral hall shall be on the left, i.e. the east, and the god of the soil on the right, i.e. the west. The northern extremity of the city, which is of least honour, is allocated to mercantile activities. This reflects the value

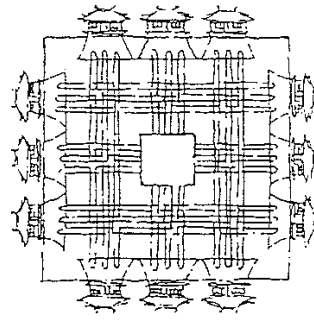


Figure 14: Ideal city planning in *Kao Gong Ji*.
(From Liu 1989: p.33)

system of Confucianism. *Kao Gong Ji* also lays down regulations which enforced the social hierarchy by ensuring that houses were built as a reflection of the owner's social class and grade (Wright 1977).

What is described in *Kao Gong Ji* are city planning ideals with strict regulations. The concepts and systems stated in the book exerted a profound and far reaching influence on later city planning. It was regarded as a model for building the capitals of all successive dynasties, and few cities departed from these principles.

History of the City of Beijing

Constructed in the Yuan Dynasty (1279-1368) as the capital, the city of Beijing was a true representation of the 'Utopia City' theory. Beijing lies at the northern edge of the great North China Plain and is in the northern part of the central portion of Hebei province. It is bounded on three sides by mountains and has a long strip of low-lying land on one side along the northern coast of the Bo Sea. In 1264, Kublai Khan, the first emperor of the Yuan Dynasty built a new capital, Dadu. It is on this foundation that the present city of Beijing has developed over many dynasties (Boyd 1962).

Beijing in the Yuan Dynasty

Dadu (Fig. 15) had an enclosing city wall with 11 gates on four sides and a central axis from north to south forming the natural geometric centre of the city. The emperor determined that the city of Dadu would have a lake (called Taiye Chi or 'Heavenly Water Pond') as its centre, with the imperial palaces and halls built around it. The Palace City was erected on the eastern bank of the lake, while two groups of palaces to the south and north were built on the western bank. The Imperial City was constructed around the three palaces, and the urban

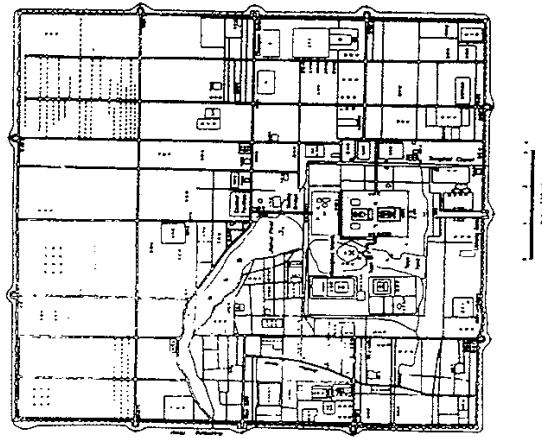


Figure 15: Layout of Dadu in the Yuan Dynasty.
(From Wu 1994: Fig. 1-4)

area developed outside the Imperial City (Wu 1986).

The street system of Dadu was arranged in rectangular grids. There were nine streets in each direction, and many parallel *Hutong* (lanes or alleys)(胡同) running east-west at equal distances. The whole city was divided into fifty official administrative units — *Fang* (坊) (Fig. 16), which were composed by courtyard houses and *Hutong*, and enclosed by walls with doors as entrances that were closed at night. The emergence of *Fang* was the manifestation of residential regulations in a feudal society. Later the security function of *Fang* disappeared but the physical form of the district was preserved. The main streets or *Hutong* circling the *Fang* were occupied by shops, and served as the transition between dwellings and the city.

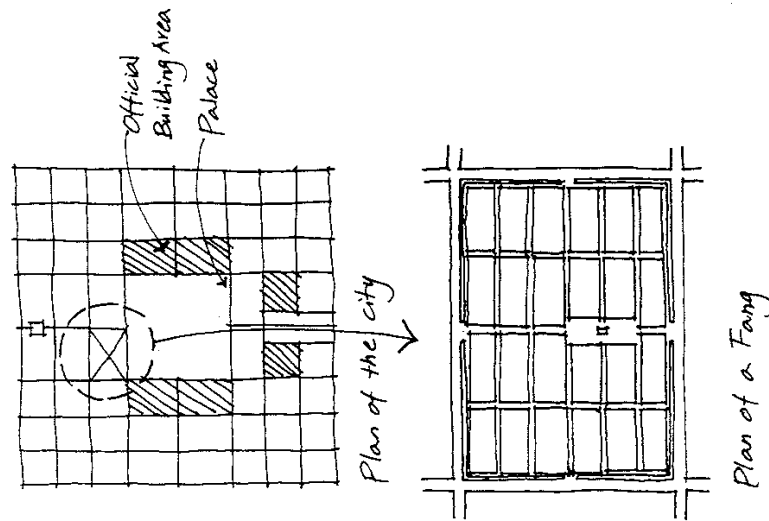


Figure 16. Layout of a *Fang* in the Yuan Dynasty.
(After Wu 1994: Fig. 5-5)

Beijing in the Ming and Ching Dynasties

The change of emperor was accompanied by a reconstruction of the palace in order to demonstrate the splendour of the new sovereign. In 1420, the reconstruction of palaces, city walls and moats in Beijing was completed under Yong Le, an emperor of the Ming Dynasty (1368-1644). Built on the foundation of the Dadu, Beijing was then proclaimed as the capital of the Ming Dynasty, and later the Ching Dynasty (1644-1912) (Wu 1986).

The first significant changes in Beijing City during the Ming Dynasty (Fig. 17) were the extension of the city area southwards and the building of a new south city wall, which allowed the Inner City of Beijing to take shape. An original plan for an Outer City wall was proposed, but its completion was postponed until the 1550's when the country was under threat from the Mongols. In this way two distinct areas were formed: the Inner City and the Outer City. The establishment of the Outer City strengthened the central axis of Dadu.

In both the Ming and Ching Dynasties the Imperial City retained its central location in the

expanding Beijing. The Imperial City (Fig. 18) had one gate on each of its sides, with the *Tian'an Men* (Gate of Heavenly Peace)(天安门) as the main entrance giving the imperial city a solemn and dignified appearance.

The street system inherited the traditions of Dadu by dividing the city into many blocks with two main streets parallel to the central axis of the city. The main streets running north-south were like spines with lanes on both sides, along which the residential buildings were situated. These residential buildings formed a basic pattern of courtyard houses, which were quadrangular in shape.

The city of Beijing in the Yuan, Ming and Ching dynasties is the very manifestation of the concepts described in *Kao Gong Ji*. The whole of the subtlety and grandeur of Chinese city planning is based upon a few key principles: axiality, walled enclosure, north-south orientation, the gridiron, the courtyard, and a hierarchical system.

▪ *Axiality*

Beijing City of the Ming and Ching dynasties inherited the axis of Dadu and extended it to the south with the building of the Outer City. The length of the axis was 8 kilometres. The Forbidden City, Bell Tower and Drum Tower were on this axis. Confucius thought of 'Heaven' as the supreme ruler, and the sun, the moon, mountains, rivers and other natural phenomena all had their attendant deities. The Emperor, 'The Son of Heaven', had the 'mandate of Heaven' to rule supreme on earth, and fulfil the will of 'Heaven'. The carefully planned axis symbolised the greater axis from heaven to earth by the arrangement of the Alter of Heaven to the south, the Alter of Earth to the north, and the Forbidden City on the axis in the middle. The axis of the city (Fig. 19) connected the supernatural god to the human emperors, who were the centre of authority over the people. This not only expressed dignity, but also indicated that the

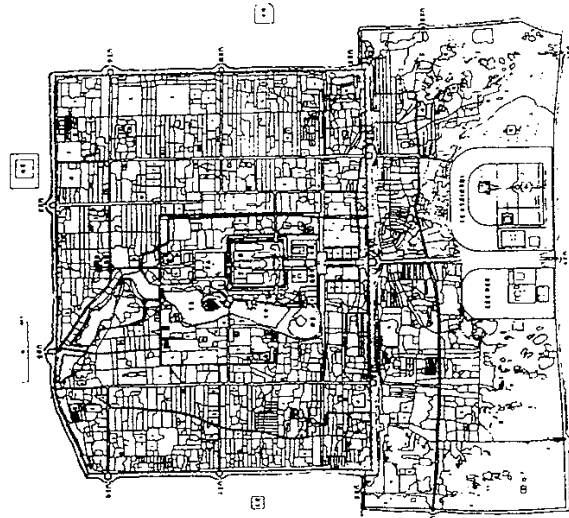


Figure 17: Layout of Beijing in the Ming and Ching dynasties.
(From Wu 1994: Fig. 1-4)

emperor was to be obeyed as the representative of heaven.

- *Walled Enclosure*

In Chinese history, great attention was paid to improving the city's defences in order to guard the feudal political power, so city walls and moats were necessary for defence. Beijing was well known as an enclosed walled city: the Imperial City was a walled enclosure within the Inner City, and in turn the Forbidden City was a walled enclosure within that. In this case, the massive high walls around the palace not only provided security and protection, but also conveyed the feeling that the emperor was unapproachable to the common people. It also conveyed the Confucian distinction between insiders from outsiders. The walled enclosure was used in the city, the palace, and the courtyard houses, forming a significant hallmark of Chinese architecture and city planning.

- *North South Orientation*

The majority of cities in China, except those limited by natural topographic features, faced the south. Other buildings — the palace, temple, tomb and housing — also followed the same principle. Similarly, in an ensemble of buildings, the main building was sited on the north side facing the south, as could be seen in the Forbidden City and a courtyard house. This southward facing orientation obviously had a functional basis, but it also appears to have been conventionally connected with ancestral ceremonies and those of the worship of heaven and earth, as well as *Feng Shui* theory.

- *Gridiron*

In the city of Beijing, the streets, *Hutong* and the residential blocks of courtyard housing

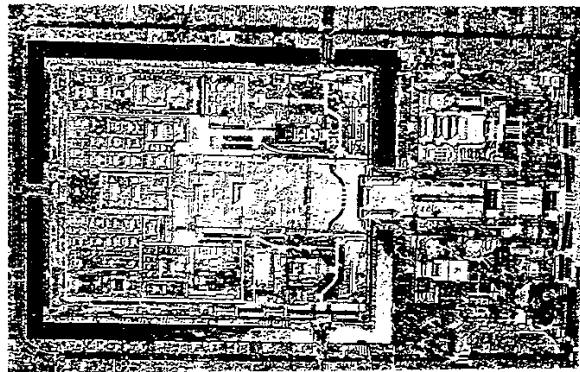


Figure 18: Layout of the Forbidden City.
(From Liu 1990: Fig. 177)

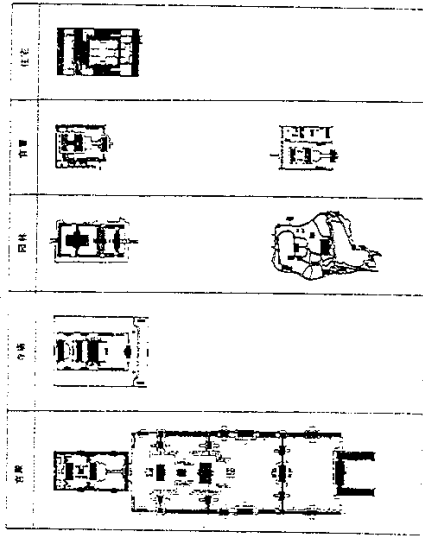


Figure 20: Different scale of courtyards.
(From Lu & Wang 1996: Fig. 3-5)

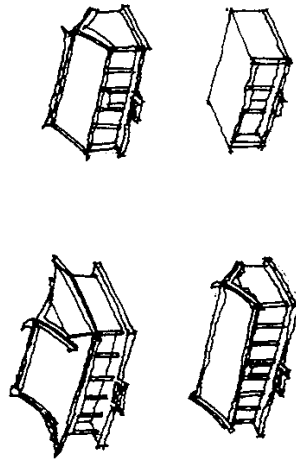


Figure 21: The hierarchy in architecture.
(After Lu & Wang 1996: Fig. 4-6)

the demolition of the city wall), the form of the city has not greatly changed, even under the influence of Western culture. New developments still adhere to the fundamental city structure established during the Ming and Ching dynasties:

“Chinese civilisation, and with it Chinese architecture, are less remarkable for their antiquity than for their continuity. ... What there has been however is, straight from the brilliant flowering of the bronze age of in about 1500 BC right up to the present, a completely continuous, individual and self-conscious civilisation of an extremely high level, one might say, one nation with (basically) one language, one script, one literature, one system of ethical concepts, one tradition in the arts, including one architecture”(Boyd 1962: 5).

Panorama of Chinese Courtyard Housing

Rapoport states that dwelling form and culture are linked together. Each culture has its unique housing form which has been influenced by social, cultural, ritual, economic, and physical factors (Rapoport 1969). In China, the unique blend of social and cultural influences contributed to the development of the courtyard house as the archetypal dwelling form.

An Overview of Courtyard Housing in China

In China, although different building styles are found in traditional housing, the square shape has dominated the house form throughout history. In Chinese, the character ‘house (房)’ is composed by two words, ‘family (户)’ and ‘square (方)’, which means a house is composed of a family and a square space. As previously stated, in the Chinese belief system, the earth took the shape of a square and the sky is a dome. Thus the square dwelling

symbolized the earth and the central opening, the courtyard, provided a piece of sky representing the heaven.

The courtyard house first appeared in China during the West Zhou period (1066-770BC) (Fig.22). It was characterised by a quadrangular courtyard with rooms on four sides enclosed by walls. This schema has evolved gradually into various courtyard housing forms and spread throughout the country (Fig.23). For example, courtyard housing in Beijing has a longitudinal plan, while in Shanxi province, courtyard houses are horizontally connected. In the most northern part of China, the courtyard housing is much more spacious and has a second layer of walls around the house. Two and three storey courtyard houses also appeared in southern China. Beijing courtyard housing is taken as representative of the courtyard housing of northern China (Chen 1993).

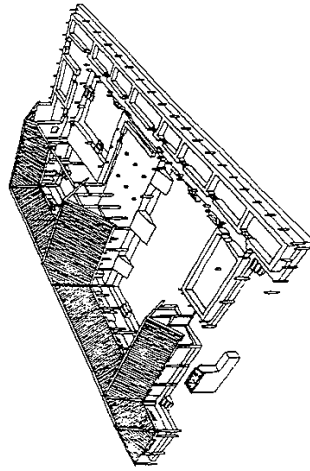


Figure 22: Courtyard house in the West Zhou Dynasty.
(From Lu & Wang 1996: Fig.2-3)

History of Courtyard Housing in Beijing

The form of the courtyard house emerged with the founding of Beijing during the Yuan Dynasty (1279-1368)(Lu & Wang 1996). After hundreds of years of transformation and development, courtyard housing came to be the typical domestic architecture of Beijing. The evolution of courtyard housing in Beijing probably occurred over three major periods: the Yuan Dynasty (1279-1368), the Ming and Ching dynasties (1368-1912), and the contemporary period.

The earliest courtyard houses that have been studied appeared during the Yuan Dynasty, although these houses reflected the traditional domestic architecture of the previous Sung dynasty (960-1279). Typical characteristics were the "I" type plan with a hall at the front and a room at the back (Fig.24). The courtyard house of the Ming and the Ching dynasties were also based on the courtyard house of Sung Dynasty, however, the layout was

improved by enlarging the front courtyard and adopting a quadrangle plan instead of the "T" type plan. In contemporary times, courtyard houses have suffered change of use or demolition. Between 1949-1966, the function of many courtyard houses changed drastically; they were used as restaurants, kindergartens, hotels, as well as properties for governmental use. More recently, the Beijing Municipal government has paid great attention to the protection of courtyard houses. Some courtyard housing districts have been designated as protected districts, such as Southern Luoguxiang and Xisi areas, and efforts have been made to adapt courtyard housing for the conditions of modern life, such as Juer *Hutong* reconstruction project.

Among these three periods, the Ming and the Ching period is the longest and most of the existing courtyard houses in Beijing were built during that period. In general, the courtyard housing of the Ming and Ching dynasties is considered to be representative of highest achievements of house building in feudal China (Lu and Wang 1996). Therefore, the courtyard housing of the Ming and Ching dynasties has been taken as the prototype for this research.

1.4 Conclusion

In traditional China, the agricultural character of the country largely influenced its politics, economy and social structure. Based on the worship of ancestors and earth gods, Chinese people set up a unique ideological system in which Confucianism, Taoism, Buddhism and *Feng Shui* theory dominated. These ideologies have affected every facet of Chinese society, including urban planning and architecture.

Based on some simple principles derived from Chinese ideologies (Confucianism in particular), the complex system of Chinese urban planning was established. The old city of

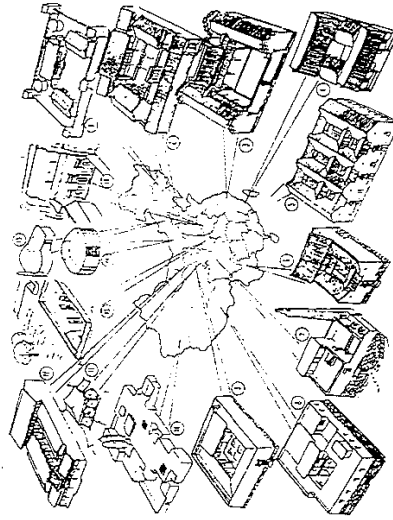


Figure 23: Courtyard housing system in China.
(From Wu 1994: Fig.5-16)

Beijing was established as the manifestation of the application of these principles and provided the urban context for the formation of courtyard housing in Beijing.

In Chinese history, courtyard housing was an integral system which spread throughout the country. The housing forms varied slightly according to the local culture and condition, but the basic rules were maintained. Courtyard housing in Beijing attained its maturity in the Ming and Ching dynasties after a long period of transformation.

The physical form of courtyard housing was the manifestation of traditional Chinese culture. Details of the way in which the Beijing's courtyard housing reflected Chinese culture and ideology are presented in the following chapter.

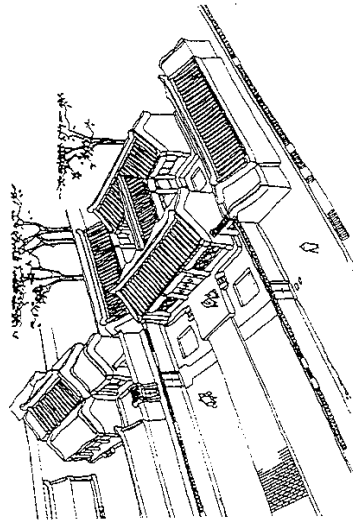


Figure 24: Courtyard house in the Yuan Dynasty.
(From Lu & Wang 1996: Fig. 1-2)

CHAPTER TWO: BODY & SOUL

----- The Form and Meaning of Courtyard Housing in Beijing

2.1 Introduction

According to Oliver (1997), the house is a socio-cultural creation. As would be expected then, as a product of traditional society, courtyard housing in Beijing was mediated by the ideologies and other cultural factors of the period in which it evolved.

It has been argued that the Chinese have never had any sense of a sudden break with the past, and the framework of their ideologies has lasted into the present (Kierman 1981). Therefore, an investigation of the cultural connotations of traditional courtyard housing is very important for any consideration of its future.

In this chapter, the courtyard housing form of the Ming (1368-1644) and Ching (1644-1912) dynasties is discussed and related specifically to its physical and socio-cultural context. The first section examines the physical form and layout of the courtyard house. The second section analyses the way the physical form and layout of the courtyard house environment reflected particular Chinese ideologies and cultural practices.

2.2 The Body of Courtyard Housing in Beijing

Courtyard housing in Beijing emerged in the particular historical context described in the previous chapter, and has been recognised internationally as the typical residential architecture of Beijing. It is appreciated not only for its long history, but also for its unique architectural form, particularly in the urban context of Beijing.

The Scale of Courtyard Housing

In Beijing, house and city enjoy a close relationship: a house is a cell of the city while the city is the unity of its houses. To understand courtyard housing in Beijing, it is necessary to analyse the house from different perspectives: the city, the district, and the house itself.

The Scale of the City

Beijing's contemporary urban fabric (Fig.25) is the product of the most recent dynasties. The whole city is an outcome of collective rather than individual works. There is no one major climax, but a series of architectural events leading up to one end point after another and beyond.

In the city the major buildings or groups of buildings were organised in a cluster. The individual buildings had rather simple forms with several basic elements assembled according to their construction module. The urban fabric was an agglomeration of big and small clusters containing other smaller clusters or contained within bigger clusters. The size of the cluster ranged from as big as the Forbidden City to as small as a courtyard house.

The traditional design of the city of Beijing illustrates how simple construction methods

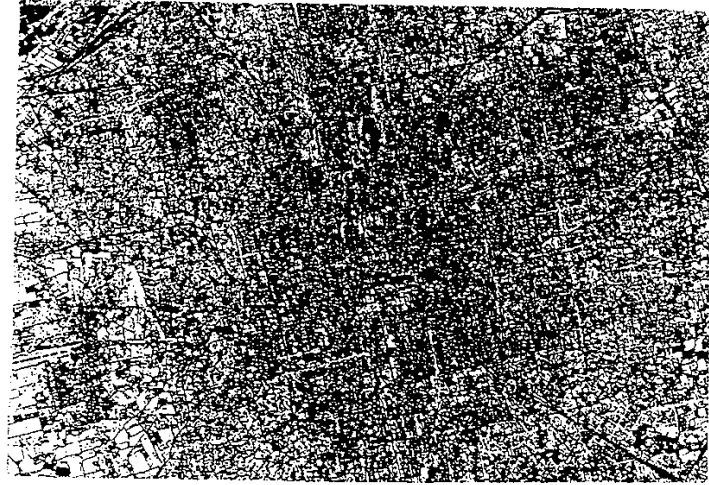


Figure 25: Photo of contemporary Beijing.
(From *2G International Architecture Review*, No.10, November 1999)

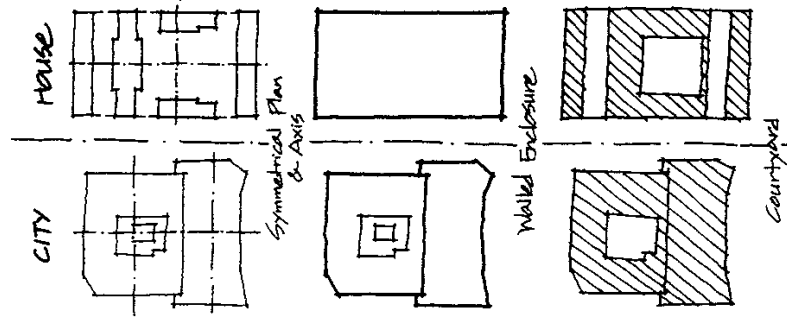


Figure 26: Similarity between the city of Beijing and the courtyard housing.
(By author)

and simple forms could be used to create an entirely harmonious whole reflecting a particular worldview. Similar principles were applied to a house, a residential district, and a city. The consistent principles which appear at each scale are: the symmetrical plan, the axis, the walled enclosure, and the courtyard (Fig.26). These principles are also a reflection of the traditional ideologies and beliefs set out in the previous chapter. Therefore, to some extent, the city of Beijing and its courtyard housing are two facets of a whole; they are concomitant and indispensable to each other.

The Scale of the Hutong

In the old city of Beijing, the main streets were like spines with *Hutong* on both sides which divided the blocks into several residential areas (*Fang*). These in turn were subdivided by smaller *Hutong* beside which the houses were deployed in lots on two sides. The main streets were broad and busy, while the *Hutong* were narrow and quiet. According to statistics collected in 1949, there were a total of over 6,000 *Hutong* within the boundary of Beijing, of which over 4,500 were located in the inner city districts (Shen & Wang 1997).

The *Hutong* system (Fig.27) in Beijing was formed during the Yuan Dynasty (1279-1368) when the Mongols reigned. The small lanes and alleys in Beijing started to use the name *Hutong*, which was a Mongolian word meaning 'water well'.³ The distance between *Hutong* running east-west was around 60-70m in the Yuan Dynasty, but the density of the *Hutong* were increased during the Ming (1368-1644) and Ching (1644-1912) dynasties due to population increases. Generally, the width of a *Hutong* in Beijing was about 7m, wide enough

³ People used to gather at the water well when they were fetching water. Therefore here the term 'water well' is used to show the *Hutong* as a gathering place (Wu 1994).

for two carriages to pass each other (Lu & Wang 1996). In addition to their function as transportation corridors, *Hutong* were also venues for the commercial and social activities of the residents. Residents used this space as an extension of their own homes, with women knitting and chatting, children playing together, men playing chess, and peddlers selling their goods.

The Scale of the Courtyard House

Beyond the brick walls, every courtyard house formed a unity in itself. As stated previously, a courtyard house is a small-scaled cluster of buildings enclosed by walls and echoing the plans of the large imperial palaces and the city itself.

Traditionally, the courtyard house in Beijing had a post-and-beam structure with masonry infill panels. One bay of this structure was called a "Jian (间)" (The basic construction unit which is about 2.4-4.2 meters)(Fig.30) and was usually a rectangle with a ratio of two to three, width to depth. The size of each individual building was expressed in terms of the numbers of bays or modules it contained (Ma 1999). A courtyard unit was composed of a courtyard and the buildings facing it. The expansion of a courtyard house was obtained by increasing the quantity of the buildings around it rather than enlarging the volume of each building. Therefore several courtyards were used to compose a bigger dwelling complex in which a longitudinal arrangement was preferred, but a horizontal model was also accepted if a large dwelling complex was required (Lu & Wang 1996).

The Elements of the Courtyard House

There are three general models of courtyard housing in Beijing. The first, the **basic**

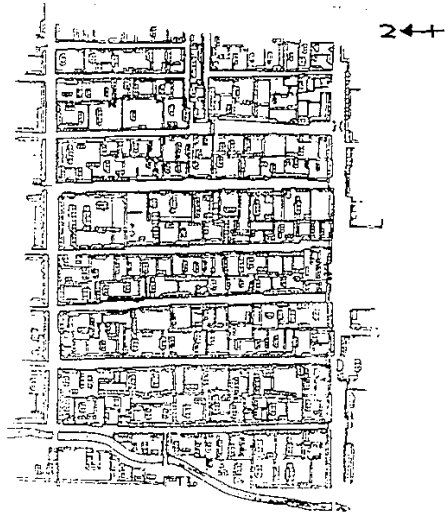


Figure 27: Hutong system.
(After Lu & Wang 1996: Fig.3-11)

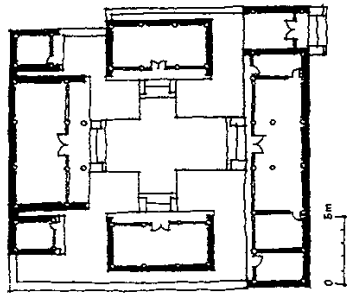


Figure 28a: Basic model.
(After Lu & Wang 1996: Fig. 4-13)

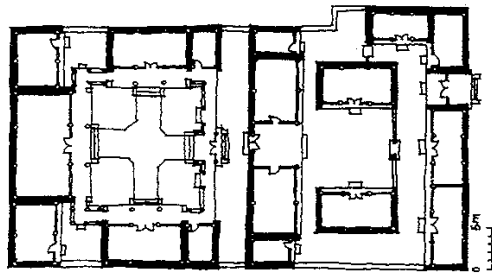


Figure 28b: Longitudinal model.
(After Lu & Wang 1996: Fig. 4-23)

model (Fig.28a), is a single courtyard with buildings on four sides and has symmetrical plan along the axis. The second, the **longitudinally model** (Fig.28b), has more than one courtyard arranged on the axis. In Beijing, courtyard housing can be found with two, three or four courtyards. The distance between two lanes in Beijing is 60-70m; this served to limit the number of courtyards in depth. So the third model, the **two-way complex model** (Fig.28c), which developed outward in the east-west direction, appeared in order to extend the scale of courtyard housing.

Normally the basic model and the longitudinally complex model were used by common people, whereas the two-way complex model was built as a walled garden or a manor for a wealthy family. In this study, the most frequently occurring model, the longitudinal model, has been selected as the basic prototype to discuss the architectural characteristics and their relation to traditionally socio-cultural factors.

Layout and Building Arrangement

A longitudinal courtyard house was made up of courtyards enclosed by one-storey buildings on four sides, set symmetrically on a north-south axis. The entire dwelling was closed off from the street by walls of the same height, which had almost no openings except for the front gate. The construction of the courtyard house was comparatively simple. Its most characteristic features were that its wooden construction was completely covered by grey bricks, and its gable roofs were spread with grey half-round clay tiles. Additionally, the front door was often painted red and studded with bolts. The entrance hall was raised slightly above the level of the street (Fig.29).

A courtyard house on the northern side of the *Hufong* had an entrance on its south-east corner, while those on the southern side, had theirs on the north-west corner. A courtyard

house with two or more courtyard units was generally divided into an inner quarter (*Nei Zhai*) and an outer quarter (*Wai Zhai*) (外宅). This was achieved by constructing a separating wall built along the southern wall of the side building extending from east to west. The entrance to the inner quarter was by an opening through this wall called a *Chui Hua Men* (Hanging flower gate) (垂花门) (Ma 1993).

The courtyard house (Fig.30) was built symmetrically along the north-south axis. The 'main building' (*Zheng Fang*) (正房), located nearly at the northern end of the axis, was the most important building of the compound and was reserved for the head of the family. On both sides of the 'main building' are 'ear buildings' (*Er Fang*) (耳房). The 'side buildings' (*Xiang Fang*) (厢房), reserved for descendants, were sited symmetrically along the axis. The more courtyards there were the more side buildings.

In Beijing, the name of a house is given by its position. For example, the house facing north is called 'south house'; the house facing south is called 'north house' and so on. The north house behind the main building was called the 'rear building' (*Hou Zhao Fang*) (后罩房) which sometimes housed unmarried girls and female servants. Besides the rear building at the corner of the compound, there was a dry-toilet which served the whole family. The south building at street level was called the 'converse building' (*Dao Zuo Fang*) (倒座房) and was usually used as the servant's quarters and for ancillary household functions. The main building and side buildings were generally connected by verandas which provided people with a passage, a shelter, and a place to sit, rest and enjoy the courtyard.

Walls and Gates

Walls and gates were important elements in Chinese city planning and architecture,

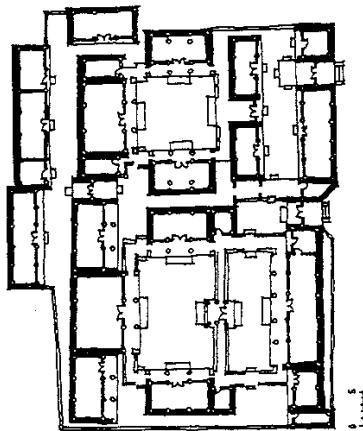


Figure 28c: Two-way complex model.
(After Lu & Wang 1996: Fig. 4-28)

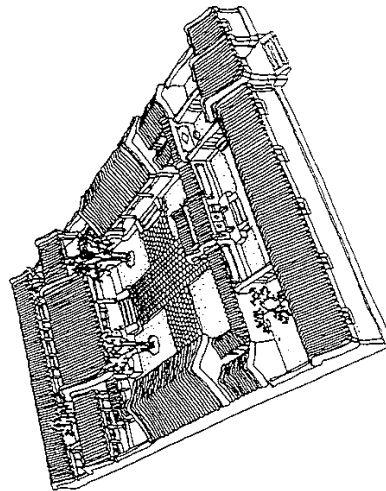


Figure 29: Perspective of a courtyard house.
(From Lu & Wang 1996: Fig. 4-18)

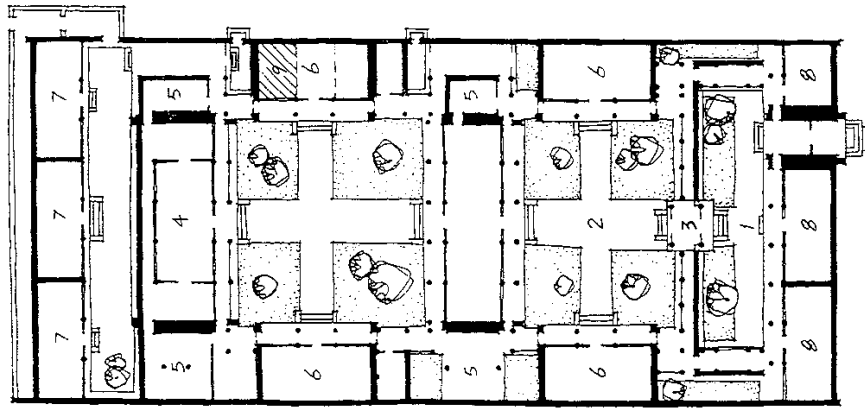
including residential architecture. Along residential streets the only feature of a courtyard house that could be seen among the plain grey brick walls was the vividly coloured gate.

A courtyard house was encircled by walls of the same height as the side buildings but not reaching the height of the main building. Screening walls (*Ying Bi*) (影壁) were important decorative constructions. They were meant to cover up the disorderly and awkward wall surface and other visibly ugly elements. Screen walls (Fig.31) were built opposite the main entrance either inside or outside and were set apart from the gate. The screen wall was made of brick, and decorated with a low-relief sculpture. If the screen wall was inside the compound, it acted as the main separation between the inner quarter and outer quarter.

The front gate, the only entrance to a courtyard house, was simple in form. Most courtyard houses used a wall-type gate (an opening where two walls meet, with a roof over) (Fig.32) providing little information about what was behind. However, the gate inside the courtyard, the *Chui Hua Men* (Fig.33), was elaborately decorated. In a traditional courtyard house in Beijing, the *Chui Hua Men* was located at the central axis of the courtyard, between the main building and the converse building. It was the only opening on the separating wall that divided the courtyard into its inner and outer parts.

Courtyard

The courtyard was the kernel of the compound of buildings surrounding it. Physically, the courtyard was used chiefly for pedestrian circulation between buildings. Large trees were planted in the courtyard for shade, scent and fruit. A pavement was provided for placing tables and chairs. Sometimes the family had meals in the courtyard when the weather permitted. Altogether, it was an ideal space for relaxation, communication and recreation. In as much as all the doors and windows of the buildings opened toward the courtyard, there was



1. Outer quarter 2. Inner quarter 3. Hanging flower gate
4. Main building 5. Ear-building 6. Side building
7. Rear building 8. Converse building 9. Jian

Figure 30: Plan of a courtyard house.
(After Lu & Wang 1996: Fig.4-19)

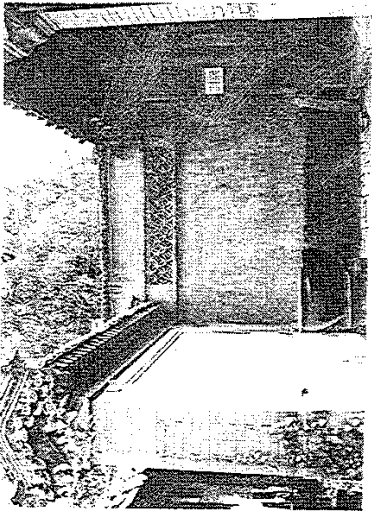


Figure 31: A screen wall.
(By author, Dongsì, October 1998)

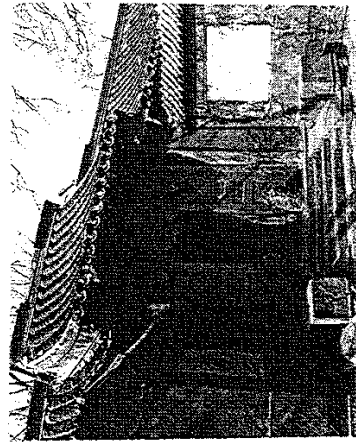


Figure 32: A wall-type gate.
(By author, Dongsì, October 1998)

interpenetration between inside and outside and people were inevitably attracted to the centre.

Generally, the outbuilding verandas were built to connect the main building, the side buildings and the *Chui Hua Men*. All these rooms have front verandas under the eaves. Openings were cut into the gables at both ends of these verandas, and led to the outbuilding verandas. The corridors not only provided passageways, but also enriched the stratified space within the courtyard.

Decoration

While the street facades of the courtyard houses were usually monochromatic, the interiors of the compounds were often highly ornamented (Ma 1993). The brickwork and tile roofs were usually grey, and all the woodwork was painted a deep shade of red. Carved door panels were sometimes highlighted with gold, and in well-to-do dwellings brackets and pillars were also adorned with green and blue ornaments.

In the courtyard house, wooden fittings were frequently used both inside and outside. External fittings for courtyard housing in Beijing included the doors, the windows and the seats in the verandas. Internal fittings were constructed as divisions within rooms. The wooden partitions (Fig. 34), which are able to be fitted on or taken down, were necessary to provide flexibility of function.

Carving and painting (Fig.35) on both the brick and wooden parts of the house were the principle means of decoration in the courtyard house. The subject matter usually involved animals, flowers and plants. Fish was used to symbolise offspring in great numbers. The orchid, narcissus, and lotus carried the meaning of happiness. The peach and red-crowned cranes were representations of longevity. The figures of deities representing fortune, longevity and happiness were also used in the decoration of the courtyard house. Generally, the content

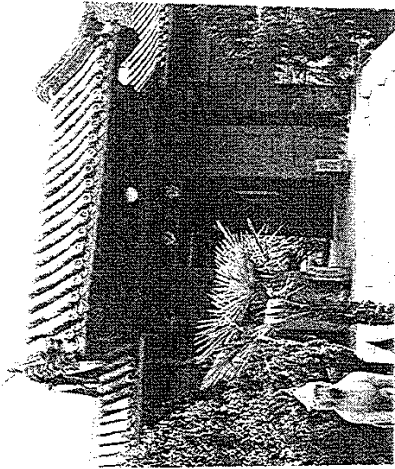


Figure 33: A Chui Hua Men.
(By author, Dongsi, October 1998)

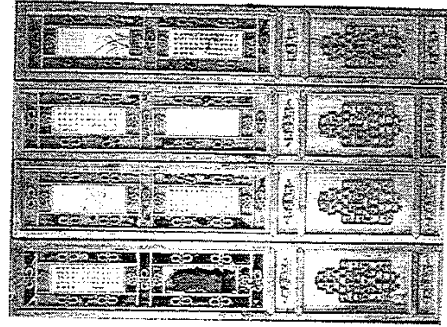


Figure 34: Wooden partitions.
(By author, Dongsi, October 1998)

of the decoration was meant to summon the good fortune, longevity, wealth, health, and happiness of the occupants of the courtyard house.

2.3 The Soul of Courtyard Housing in Beijing

Rapoport (1969) argues that, for traditional cultures, the dwelling is 'a socio-cultural mechanism'. The following section discusses the way in which traditional courtyard housing in Beijing acted as just such a socio-cultural mechanism and gave meaning to a particular way of life.

Courtyard Housing as a Dwelling Culture

The definition of culture is debated across different disciplines. According to Susan Kent, an archaeologist, culture is "notoriously vague, it includes technology, symbolism and the world view, economics, social structure, and political organisation" (1990:2). The anthropologist Clifford Geertz has defined culture as "an historically transmitted pattern of meanings embodied in symbols, a system of inherited conceptions expressed in symbolic forms by means of which men communicate, perpetuate, and develop their knowledge about and attitude toward life" (1973:89). Redfield states that culture is the "total equipment of ideas and institutions and conventionalised activities of people" (Rapoport 1969:48). Altman defines culture as shared beliefs, values, and styled behaviours that are passed from one generation to the next (1980). From these most basic definitions, culture implies some degree of continuity with the past, preservation of past knowledge, and memory of the past.

Rapoport argues that in terms of the relationship between culture and housing, "building

a house is a cultural phenomenon, its form and organisation are greatly influenced by the cultural milieu to which it belongs" (Rapoport 1969:46). In his *Culture and Environment*, Altman views environment, culture and people as an integrated and interdependent system (1980). As a part of the physical environment for people's life, housing therefore affects and is affected by culture in complex ways.

Based on Geertz's definition of culture in general, the subset of culture referred to as 'dwelling culture' may simply be defined as those patterns of meanings embodied in housing and in the way in which we inhabit housing (Abramson 1997).

Embodiment of Confucianism

In feudal society, when the Confucian idea of hierarchy was dominant, the size and the decoration of a building was restricted by rules which related to the function of the building. As a residence for common people, a courtyard house was only allowed to be built in austere materials, plain colours and simple roof forms. This therefore dictated the relatively monotonous appearance of courtyard housing. The only way that the occupants could show off their wealth and social status was through the size of the house, which ranged from a small 120 square metres up to ten times that size (Casault 1988).

Inside the house, the organisation of the compound could be said to resemble the traditional Chinese family structure, which was an extended family based on Confucian principles, being both hierarchical and patriarchal. In a rigid hierarchical family system in which the father-son line was central, an axial symmetrical arrangement of the house was the most suitable expression (Schoenauer 1981). As the head of the family, the father occupied the most spacious and amply decorated position: the main building. Unmarried children and married sons with their wives lived together in the same courtyard house and occupied the

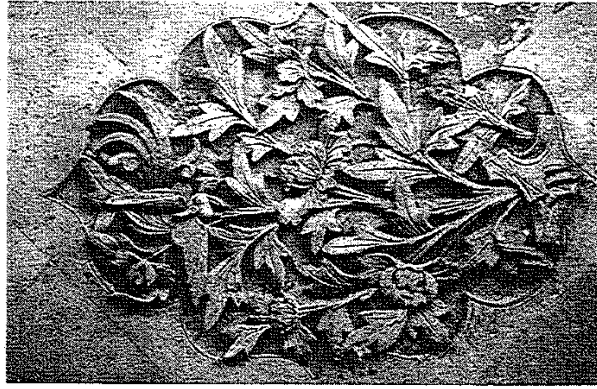


Figure 35: Carvings.
(By author, Dongsi, October 1998)

compound in hierarchical order. Except for elderly women, females had a fairly low status in the family. Many constraints were generally placed on their activities. The back part of the courtyard belonged to the female members of the family, and no male guests were allowed to enter. The married daughters lived away with their husbands' families and the unmarried ones were generally not allowed to go into the outer quarter. The converse building was thought to be the least important in the hierarchical arrangement, so it was apportioned to the servants.

In traditional Chinese societies, extended families with a strict hierarchy of seniority were favoured. Since Confucianism emphasised gradation in family relations, older generations had precedence over younger ones, and in the same generation, the older over the younger. There was a strict hierarchy characterised by respect for elders and the consequent filial piety in the family. The compact and orderly arrangement of the courtyard house was the very reflection of this concept. The precedence was not only expressed in the position of the buildings, but also in the residential behaviour. Ethical-spiritual harmony and a ritual mode of living were the main forces created in the courtyard house. Therefore, this physical building pattern influenced and reinforced the life-style and thought of all the family members.

The walls and gates of courtyard houses were the expression of the social order and *Li* in Confucianism. The Chinese considered the whole family as an entity which was totally different from other families (Wang 1997). The enclosed walls of the courtyard house were the borders between outside and inside, as well as between 'outsiders' and 'insiders'. A person who did not belong to the family was totally excluded from family affairs. This concept was expressed by the Chinese proverb: *The scandal of the family can not be spread outside the wall*. The wall of the compound was representative of the family domain and, to some extent, the confinement of the members of the family, especially for women for whom the wall was a barrier separating them from the world. The only access to the outside world was the front

gate. In this way, social order or *Li* materialised.

Expression of Taoism

Architecturally speaking, the courtyard was a negative space, a void juxtaposed against the massing of the buildings. The void (non-being) and solid relationship was influenced by the philosophy of Laoze, the founder of Taoism. In the *Tao Te Ching*, Laoze states, "[m]ould clay into a vessel; from its non-being arises the utility of the vessel. Cut out doors and windows in the house; from their non-being (void) arises the utility of the house. Therefore by the existence of things we profit and by the non-existence of things we profit" (Casault 1988:22). In a courtyard house, the whole complex was regarded as a big void. Space and form of space were created and shaped by means of the enclosing elements such as walls, doors and windows. The void of the exterior spaces of the courtyard was thus formed by enclosing walls while the voids of interior space of the rooms were created by means of both roof and walls. The principle of 'being created by means of non-being and non-being out of being' was applied. Therefore the transition between solid and void extended throughout the courtyard house, as each building was a solid in a void lot and the courtyard was a void in the solid compound (Fig.36).

Another embodiment of Taoism in courtyard housing was the way in which the courtyard reflected the concept of harmony between humans and nature. Taoists believed that human beings lived between heaven and earth. The only way to obtain 'Tao' was by human beings exerting their ability to harmonise with nature. A microcosmic, symbolic universe was therefore introduced into the human dwelling: the courtyard. The residential courtyard provided a space for people to be close to and attuned to nature.

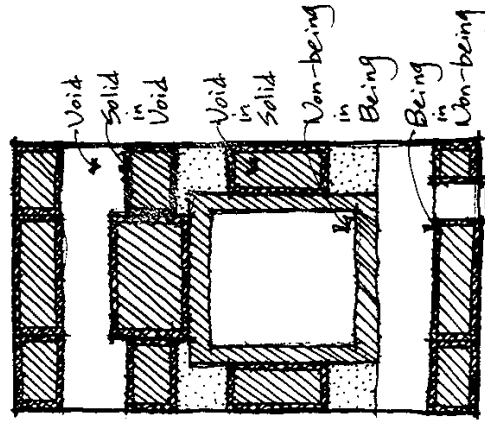


Figure 36. Solid and void (being and non-being) in a courtyard house.
(By author)

Manifestation of Feng Shui Theory

Feng Shui theory played a significant role in forming Beijing courtyard housing. The best location of the entrance of a house was the south-east corner, the direction from which, according to Feng Shui, the vital Qi comes. According to Feng Shui, the main building of the house was ideally sited on the north, facing south. From the perspective of Feng Shui, the main building and the two side buildings of a courtyard house formed a "U" shape which symbolised the surrounding hills. The screen wall (Ying Bi) with an opening (Chui Hua Men) represented the facing mountain, a symbol of ancestry. By incorporating these aspects, a favourable site for dwelling was artificially formed (Fig.37). The courtyard (Yin), which was a symbol of the open space in the natural landscape, was enclosed by the surrounding buildings (Yang); the balance between them symbolised family harmony and invited happiness and prosperity. The meandering sequence of access to the master room symbolised a river which accumulated Qi. As a part of the sequence, the screen wall was also considered as a protection against evil (Xu 1998).

The one-storey height of the buildings also had significance. According to Feng Shui, accumulating Qi was believed to bring health, peace and luck. The lowness of the building was therefore beneficial because living close to the earth is considered one of the ways to get Qi from the earth.

A Manifestation of Classical Chinese Architecture

A courtyard house in Beijing is considered a manifestation of classical Chinese architecture. Classical Chinese architecture was generally characterised by horizontally developed complexes, built in temporary materials.

Traditional courtyard housing was primarily constructed with wood. Besides the fact that

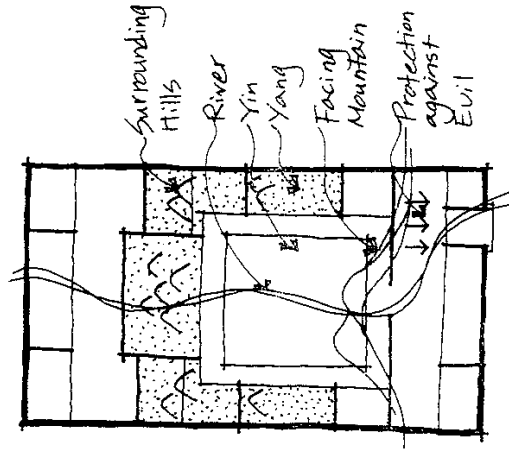


Figure 37: Feng Shui in a courtyard house.
(By author)

timber supplies were abundant and easy to work with, another plausible explanation for the use of temporary building materials, such as wood, was that the Chinese did not want buildings as permanent and precious monuments to the glory of a God in the way the West did (Boyd 1962). The Chinese believed that metabolism was the basic rule of the world, and that artefacts should not be an exception. So architecture, as an artificial construction, could not be considered eternal (Ding 1997). The Chinese, therefore, relied on timber during a period when the West preferred permanent building materials such as stone and masonry.

The second characteristic of classical Chinese architecture that was totally different from the West was the emphasis on the cluster rather than the individual. In traditional Beijing, the individual buildings were all simple in their basic form. However the cluster, rhythmically composed by the buildings of different form and size, was grand and picturesque. To some extent, this architectural preference can be seen as the reflection of the Chinese belief that every individual was a unit of a bigger complex; therefore the self-expression of the individual was restricted. This notion influenced not only the architecture but also the place of the human being in society.

Another striking aspect of classical Chinese architecture was that buildings were arranged and developed horizontally rather than vertically. First of all, this could be thought to be characteristic of an agricultural country in which the earth was given high spiritual regard. Secondly, it might also be a reflection of the Chinese hope to be in harmony with nature by blending architecture into the environment.

Courtyard Housing as a Space and a Place

In architectural theory, understanding housing has been approached in many ways: as a

product, as a commodity, as a process, as a place, as territory, as private domain, as a setting for behaviour, or as a locus of activities. For this dissertation, the most important function of a house is as a 'place' to reside and to form connections with other 'places' in the environment. Therefore a house is first of all a place that is constituted by space.

Courtyard Housing as a Space

The combination of walled compounds, walls, gates, courtyards, and narrow access ways (*Hutong*) created a residential space in Beijing courtyard housing. This space was characterised by a coexistence of enclosed and open spaces, private and public spaces, inside and outside spaces.

Enclosed and Open Space

Enclosure was the significant characteristic of courtyard housing. Zhu Wenyi (1993) states that the continuity and integrity of the boundary in Chinese tradition not only delineated the isolation from outside, but also resulted in an inward force inside. The enclosed space of the courtyard house provided a barrier for the family, separating them from other houses and people. At the same time, it also strengthened the relations within the family.

From outside of the courtyard house there was little indication of the life that was hidden behind the plain grey brick walls which protected the dwellings. The front gate was the minimum necessary to provide access to the individual family compounds. The enclosed walls of the compound could be thought of as the symbol of control, while the front gate served as the freedom of choice for gaining access. The intactness of the enclosure was so important in Chinese culture that the rupture of the walls — the position of the gate — was mended by the *Yin Bi* (Fig.38). To some extent, the courtyard house signified closure to the outside world.

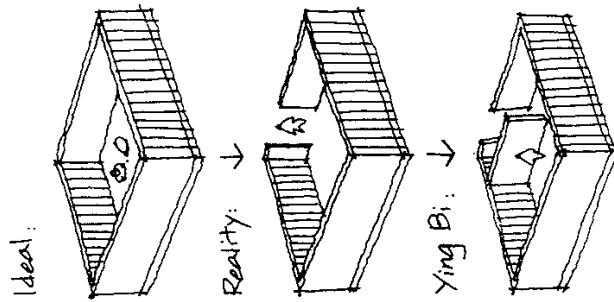


Figure 38: Intactness of enclosure in a courtyard house.
(By author)

The inside of the courtyard house was the private territory for the family and outsiders were excluded. However, beyond the enclosure, the *Hutong* was a domain for neighbours to share their interests. So the enclosure distinguished between what could be shared and what could not, both physically and socially.

Traditionally, Chinese people were 'closed' to the outside world. However, they were 'open' within the family. As mentioned previously, in Chinese culture, great attention was paid to the harmony between family members. Because of the existence of the enclosure, the whole family relationship was strengthened. Separated from the outside world, the family members sought communications and activities inside the house. The development of courtyards provided places for various family activities and a secure private open space. They provided opportunities for the whole family to gather together. The courtyard house complex was thus 'openness within closedness'.

Private and Public Spaces

The relationship between the private and public spaces of the courtyard housing neighbourhood in Beijing might be better understood if we were to borrow some theories from urban design. The figure-ground notion illustrated by Noll's Map of Rome (Trancik 1986) has been broadly used in urban design. Trancik argues that the city is dominated by two physical conceptions: the structure of space, where open space appears between solid masses, and the structure of solids, where buildings appear on a plan. They are thought to be the characteristics of both the traditional city and the modern city respectively (Trancik 1986). However, when we look at the residential area of traditional Beijing, both effects are achieved at once; buildings (solid) were pavilions in a yard (void) but spaces (void) were strictly defined by walls of the buildings (solid) (Fig.39). Thus there was a sense of both private spaciousness

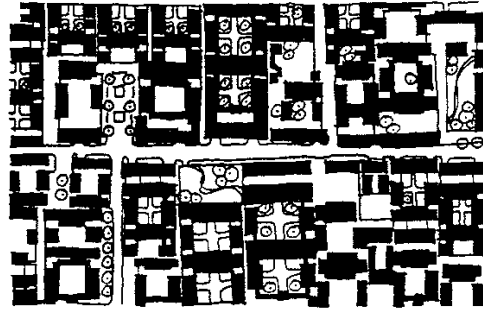


Figure 39: Private and public space
of a courtyard house.
(By author)

and public enclosure.

As a private space within a neighbourhood, the courtyard house was confined by its enclosing walls. The centripetal force from the walls, to some extent, defined the space as a 'public' domain for the family who lived in the house. As to the courtyard, it served as a controlled connection to nature and a partial retreat from society, as a public space for individuals, and as a private domain for the family. Thus, the space in the courtyard housing in Beijing had a twofold meaning: as private space, and as familial 'public' space.

Another feature of courtyard housing was the existence of semi-public and semi-private spaces. As the connection between the street and the house, the *Hutong* served as a semi-public space for the residents' social communication and activities. The outer courtyard provided the residents a semi-private space which was the transition between public and private spaces.

Inside and Outside Space

In courtyard housing, the demarcation between inside and outside spaces was clearly defined by the enclosure. The outside space, the *Hutong*, served as a social and commercial space for the residents. Historically, many residents would sit in the *Hutong* or stand at the front gate of their families' dwellings, getting sunshine or chatting with the neighbours. They could anticipate a peddler's arrival when they heard his cry being carried along the narrow *Hutong*, until it was their turn to bargain with the peddler in front of their door. Public life in the *Hutong* was abundant. No matter how intensely the *Hutong* were used as an extra living space however, such activity did not impinge on those households that had adequate space within their own courtyards (Fig.40). Thus the space outside of the courtyard housing had a double function. On one hand, it guaranteed the private life of the family. On the other hand, it also

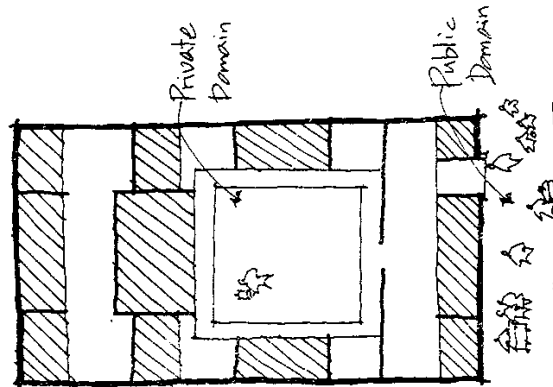


Figure 40: Inside and outside space of a courtyard house.
(By author)

accommodated a wide range of social relationships between peddlers, neighbours and families of varying means, and was the focus of neighbourhood life (Abramson 1997).

Being the interface between the inside and outside spaces, the walls of the house played a very important role. The height of the wall made it possible for the inside and outside spaces to permeate each other. Inside the house, the residents behind the walls could 'hear' the presence of the neighbours and strangers but never had an opportunity to see them unless they chose to open their gate. One of the strongest characteristics of Beijing's traditional neighbourhood was its peculiar "soundscape" (Yang 1995:170). The fact that the surrounding walls were only one story high was important. In the *Hutong* there was a feeling that one could almost reach over the courtyard walls into the private house – which was still outdoors. The residents also felt that they were participating in the activities in the *Hutong* while they were standing in their own courtyard (Fig.41a). So the wall both separated and connected private space and public space.

The front gate of the house provided an in-between realm, in which the residents could shelter themselves while watching the life in the street (Fig.41b):

"It both 'articulates' the wall along the *Hutong* and separates the private house from the public street. It guards and welcomes simultaneously. It provides a 'window to the world' by allowing the person inside the house to keep in touch with the life of the street" (Mann 1984:349).

In this sense, the front gate supported a form of spatial solidarity between the people in the household, neighbours, and the people passing by. It was also an expression of the communication between inside and outside.

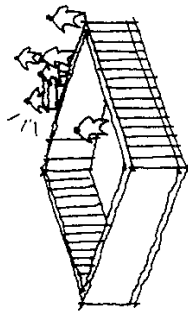


Figure 41a: Inside a courtyard house.
(By author)

Courtyard Housing as a Place

"A place is a centre of action and intention, it is a focus where we experience the meaningful events of our existence" (Relph 1976:42). Establishing a sense of place is essential because it provides a sense of belonging for residents and retains the continuity of historical and cultural tradition.

Relph (1976) believes there are three components of place: (i) the physical setting, (ii) the activities which occur in these settings and (iii) the meanings assigned to these activities and the space in which they occur. In a courtyard housing environment, the unique colour, shape and symbols facilitated identification for the residents. The gabled roofs, the coloured gates, the decorated screen walls, the monotonous facades, the grocery shop at the corner, or even the name of the *Hutong* were all meaningful to the residents as identifiable aspects of place. Identity developed through the memory of unique meaning, form and function of these aspects. The spatial configuration also contributed to residential identity. In a courtyard housing environment, the only access ways were the two entrances into the *Hutong* and the walls of the courtyard houses that served as the boundaries defining the dwelling area. Thus, the residents felt 'half at home' even entering the *Hutong* because of its semi-enclosed characteristics. The clear boundaries of the house and its single access way indicated the family domain which was distinctive from all others.

Relph argues that residential identity lies in the experience of living as much as in the physical setting (1976). The residents' activities in the dwelling environment were therefore also significant. In the traditional courtyard housing environment, the *Hutong* was used as an extension of the living area. Besides ordinary details of life such as eating, reading, and sleeping, the courtyard provided the residents with a space for various activities: exercising, growing plants, keeping birds and fish, and socialising with family members.

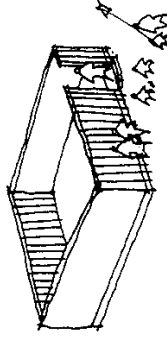
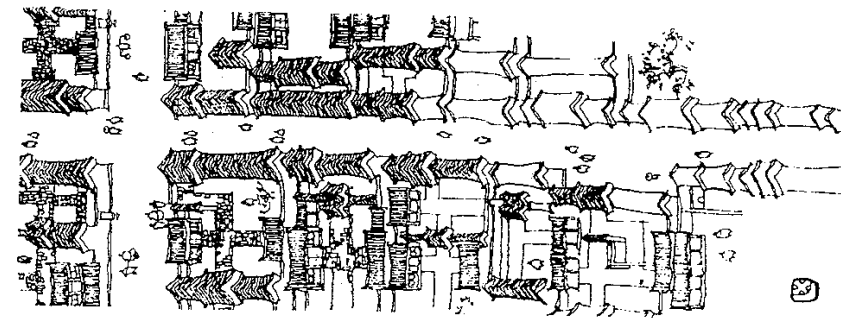


Figure 41b: In-between of a courtyard house.

(By author)



Therefore, the house was a place to which the residents belonged and the space for their intentions and experiences. The meanings of the courtyard housing environment, together with the physical setting and the residents' activities, were inseparably interwoven and formed a uniquely Chinese dwelling place.

2.4 Conclusion

Up to this point the physical characteristics of courtyard housing and its socio-cultural connotations have been investigated. It has been shown that courtyard housing evolved in a particular urban context in which the courtyard houses, the *Hutong*, and the city were interdependent. The courtyard house was not only a unity in itself, but also a unit of the *Hutong* which in turn formed the fabric of the city.

It is also clear that the courtyard housing environment (Fig.42) embodied Chinese ideologies and beliefs, and provided a unique space and place for the Chinese way of life. There were strong links between the socio-cultural requirements of the residents and the environmental-spatial configuration of the housing. The residential environment provided by courtyard housing was actually supportive of the socio-cultural dwelling conditions of Chinese people. Rapoport asserts that for it to work well, housing needs to be socially and culturally valid (Rapoport 1969). In this sense, courtyard housing worked well in traditional Chinese society.

Figure 42: Perspective of Huitong and courtyard houses.
(From Lu & Wang 1996: Fig.3-12)

CHAPTER THREE: KARMA & EFFECT

----- Urbanisation and Its Impacts on Courtyard Housing in Beijing

3.1 Introduction

Courtyard housing in Beijing is currently undergoing a crisis. The circumstances under which the courtyard housing originally evolved have changed. The present processes of modernisation and urbanisation in Beijing have brought changes in ways of dwelling and changes in what is expected of housing. Maintaining the continuity of traditional courtyard housing is difficult in the face of modernity.

In this chapter, the general process of urbanisation in Beijing is discussed and related specifically to its impact on the dwelling environment. It is hoped that understanding the impacts of modernisation may inform proposals for the possible future of Beijing's courtyard housing. The first section of this chapter looks at the context of urbanisation in terms of population development, urban expansion, and urban redevelopment in Beijing. The impact of urbanisation on the dwelling environment of Beijing is discussed by analysing the associated changes that are occurring in housing provision, living standard, family structure, and dwelling form. A description of the current planning system in Beijing provides an understanding of development control in the process of urbanisation. The second section of this chapter looks at the impact of modernisation on courtyard housing in particular, from the scale of the city to the scale of the house. This is followed by an overview of the debate over the future of this traditional housing form.

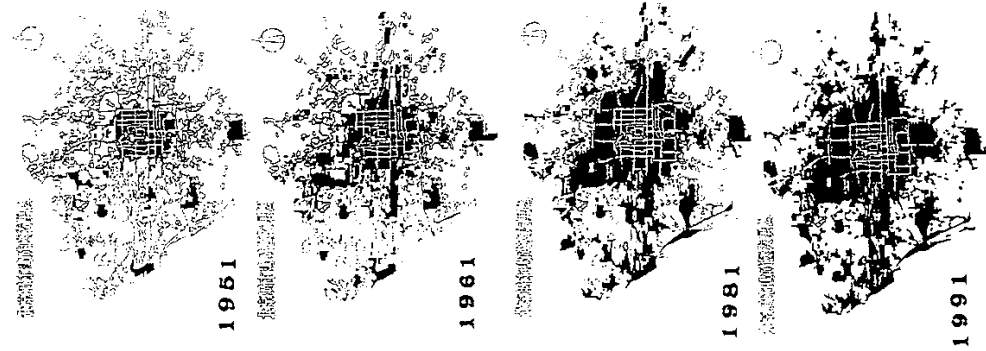


Figure 43: Urban expansion of Beijing.
(From Wu 1994: Fig.3-1)

3.2 Transformation in the Urban and Dwelling Environments of Beijing

The process of modernisation and urbanisation, its causes and its impact on the environment and quality of life, are important issues in the current pattern of change in Chinese cities. In the past 50 years, particularly after 1979 when economic reforms were initiated, China has undergone enormous social, economic, and political changes.

The Context of Urbanisation in Beijing

Modernisation in Beijing has coincided with soaring population growth and the expansion of urban areas (Fig.43). In 1949, the administrative area of Beijing was 707 square kilometres (the inner, original walled city was 62 square kilometres), and the population was 1,560,000. By the end of 1983, the city's administrative area⁴ had grown to almost 16,800 square kilometres with its urban area to 1,370 square kilometres (Yang 1994). In 1998, the population in Beijing reached 10,617,500, which made it the second most populous city in China. A large part of the reason for the rapid population increase in Beijing was the inflow of people from all other parts of the country. In order to control the growing population of the urban areas of Beijing, satellite towns were developed (Fig.44).

The process of urbanisation has been marked not only by urban expansion but also by inner city redevelopment. Up to the end of 1996, there were more than 200 redevelopment projects in Beijing covering 22 square kilometres (Tan 1997). Major changes in land use

⁴ The city is administratively divided into four city districts, four inner suburban districts, and outer suburban districts which comprise ten rural counties (Yang 1994).

patterns have also been occurring to accommodate both increases in commercial development and the upgrading of municipal infrastructure for further investment. Inner city redevelopment has been fuelled not only by the need to upgrade residential conditions, but also through recognition of the economic value of inner city land. So redevelopment projects seek to achieve relatively high densities without breaking height limits⁵ (Fig.45). Even though redevelopment has meant the unavoidable replacement of low-rise buildings by high-rise buildings, some attempts are being made to retain the quality of Beijing as an imperial centre, and some planning effort has been aimed at rebuilding the urban core in a form which is consistent with its historic roots.

Changes in the Dwelling Environment

After decades of economic reform and a consequent relaxation of social controls, the city of Beijing is in the middle of an extraordinary transformation. China's transition from a planned economy to a market economy has resulted in various changes to the dwelling environment including government initiated housing reform, the development of a real estate market, changes in family structure, and changed material living expectations. At the same time, a planning system has been set up to regulate development in the process of urbanisation.

⁵ Aiming at rebuilding the urban core in a form which is congruous with its historical roots, the contentious issue of promoting historic conservation in the face of growing need for redevelopment has been paid great attention. Rules of height limits was set in 1987's city planning to control the form of the buildings which will replace the old *Hutong* neighbourhood, as well as the overall demographics of the city (Wu 1994).

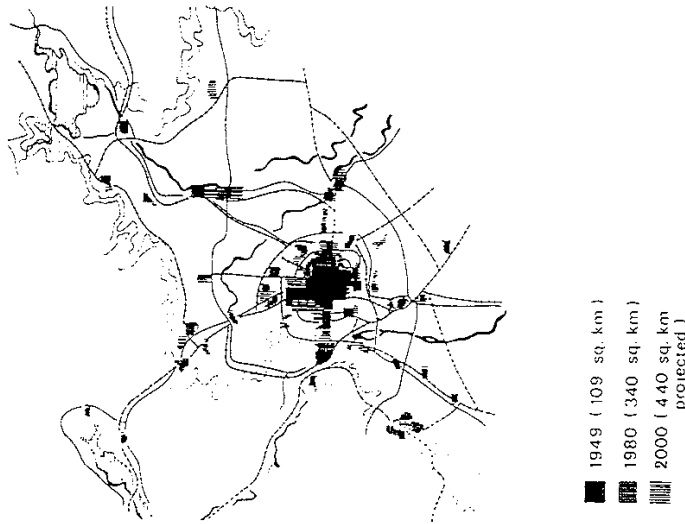


Figure 44: Satellite towns of Beijing.
(From Dong 1985: Fig.2-5)

From Welfare to Commodity (Housing Reform)

Housing reforms initiated by the central government in 1979 attempted to establish an equitable and efficient system of housing provision by altering housing production and consumption patterns, as well as by making housing construction and real estate industries significant components of the national and local economies. The government resorted to market-based transactions to relieve the housing shortage and its financial burden (Fong 1989).

Before 1979, housing in China was considered to be a welfare responsibility of the government. Funds for housing development were therefore primarily provided by the central government with a very limited amount coming from rents paid by the residents. Low rent housing was distributed to employees by various government units or enterprises. The processes of financing housing construction were also controlled by government enterprises. Prior to 1979, stratified levels of governmental agencies dealing with housing administration and management were involved in a homogenous system of housing provision and management.

There were several fundamental weaknesses in this housing system. The basic problems were the lack of regular and adequate funds for housing construction and maintenance, the heavily subsidised rental system, and the lack of housing developments to meet the ever expanding urban population and the rising expectations in living standards. Consequently, in the late 1970s, the government considered it necessary to reform the existing housing system beginning with rental policy. Ideologically, housing would no longer be treated as a welfare service and rents would rise according to the commodity value of housing. This was a great change from the original idea that housing (as part of the state-owned economic sector) was not a commodity. Many individual reform plans were experimented with

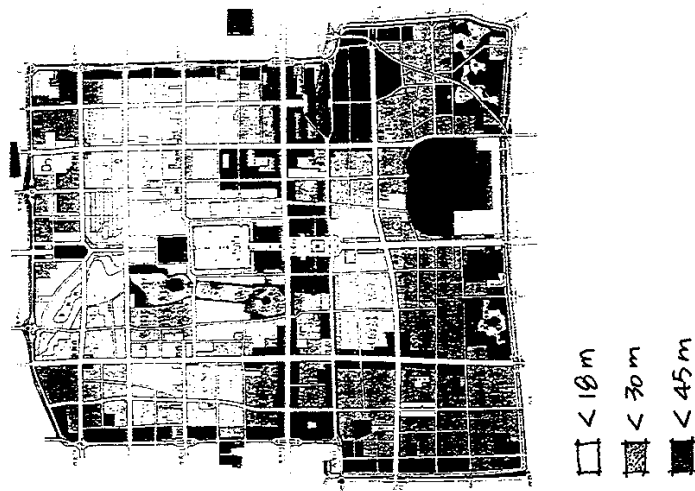


Figure 45. Height restrictions in Beijing.
(From Wu 1994: Fig.2-9)

in various cities, most of them focusing on rent increases and the sale of housing units. However, it was found that housing reform involving substantial increase in housing costs could not stand on its own if it was not tied to wage reform that would provide people with the means of paying for housing. The government therefore provided a larger budget for housing plus additional funding through the establishment of savings and loans associations, housing development funds, bond insurance, and so forth.

Nonetheless, due to the complex domestic situation in China, the process of housing reform has so far not progressed as far as the government expected. Currently there are several housing systems working together. The old system in which housing is totally distributed and maintained by the government is still used by some work units. The savings and funding system is handled by a work unit or welfare association that helps people save money from their wages and provides a subsidy for housing. Another parallel system involves work units paying their employees higher wages, taking no responsibility for housing provision, and requiring employees to resort to bank loans (Fong 1989).

Since the early 1980s, changes have been made in the housing sector, with individual funds and funds from various enterprises being allocated to housing. The housing construction and real estate industries now play important roles in the housing market. Modifying the theory that both land and buildings belong to the nation, the government has parcelled out leasehold land to investors. A new term broadly used among the investors to describe this new leasehold system is 'land-use-rights'. Despite the high cost of land leases, many investors are now attracted to the housing market in Beijing for its profit potential. The development of a real estate market also provides more alternatives for housing buyers and helps them, to a certain extent, to overcome financial impediments by providing more opportunities for funding.

In summary, changes introduced by the reforms since 1979 have only been partially

successful. The present situation in the housing system presents complex characteristics, as many problems still need to be tackled. But it cannot be denied that the reforms have promoted housing development.

From Big-family to Small-family (Family Structure)

The direct results of modernisation in China have been the increases in physical and social mobility resulting in changes in values, institutions, attitudes and behaviour. Under such impacts old life style patterns have declined and new patterns have emerged. These new patterns are often linked to a demand for a change to older housing types.

Traditionally, the Chinese family has been a tremendously important and solid institution in China. Although the family still holds a significant place in modern China, important changes have taken place in family structure. A prevalence of 'big families', with several generations living together, was a distinct characteristic of the traditional Chinese family. Even though modernisation has not attacked the notion of extended family living per se, the consequences of urbanisation have led to the decline of the extended family. Population mobility caused by economic development is the main, but not only reason, for the decline of the extended family. A family survey conducted in 1982 (Tsui 1989) revealed a decrease in extended households and an increase in nuclear families. Whyte and Parish's research about urban life in contemporary China (Whyte & Parish 1984) reveals that Chinese families are now somewhat less likely to take an extended form, however they also argue that an extended family structure is still the most common form for older people. The young could also accept an extended family if child-care and financial dependence was provided. So it is suggested that although social changes may eventually make the nuclear family the dominant family pattern, it is not likely that there will be a rapid decrease in extended families in the near future (Tsui

1989).

Within the family the tradition of patriarchy has been changed by ideas of equality between males and females and the improving status of women. The traditional family emphasised the importance of the father-son relationship and family power was absolutely controlled by the elders, whereas women had a lower status in the family. This situation has changed gradually, especially since the beginning of the modernisation process when women's economic status improved significantly. Economic independence and their economic contribution to the family have given women increased power and changed their position in the family. However, in major ways, such changes have not destabilised the relationships between the generations. The power of the older generations has softened somewhat, but strong feelings of respect and obligation remain to bind the generations together (Whyte & Parish 1984). In sum, the changes in urban family patterns in China seem more evolutionary than revolutionary.

In terms of attitudes, the changes commonly associated with industrialisation have resulted in a radical reappraisal of fundamental values, including family values, friendship, and neighbourliness. Improved standards of living and increased physical and social mobility have drawn people inward and closer to immediate family and close neighbours. Although more distant kin and friends are not completely forgotten, the shortage of free time, convenient communication, and traffic difficulties have all contributed to decreased contact with more distant kin and friends. In modern societies, neighbours come in contact through various publicly organised activities and through their children's activities, allowing each family to develop close contacts. To a certain extent, the kinship concept in the traditional family has been replaced by the immediate family, and close neighbours remain in a relation of mutual involvement, mutual aid and neighbourhood harmony.

From Low-standard to High-standard (Material Living Standards)

It has been argued that housing form is closely related to social structures. When these structures change new living requirements emerge (Tan 1997). The decline of the extended family has decreased the possibility of the continuity of traditional housing. Besides this, the traditional housing form that was based on family unity without regard for personal needs could not fulfil the increasing requirements of individual privacy. Although the physical environment of housing is only one aspect of a cultural institution that regulates privacy, the concern for personal privacy has been reflected in the preference of housing form.

The expectations of improved living standards have led to a requirement for better housing amenities. Modern facilities and infrastructure such as energy, gas, sanitation are essential now considered for contemporary housing. New residential areas (Fig.46) equipped with stores, restaurants, banks, good transport and other services are preferred. In addition, proximity to parks and green space is also considered desirable.

In traditional housing in Beijing, there was little class differentiation. This could be explained by the fact that there was minimal income differentiation between different social classes and limited choice of housing type. Few families moved from one house to another, even if their circumstances changed. After decades of economic reform, there has been an increase in the proportion of the population on high incomes. This group spends their money on modernising their family life. The increasing gap between the rich and the poor is reflected in the growing market for large residences with modern services. This has not, however, resulted in Western style middle class suburbs. Abramson (1997) argues that there are two reasons for Beijing's failure to develop middle-class suburbs. Firstly, the wealthy residents of Beijing have nothing particularly undesirable to move from, because the courtyard form allows residents to have different living standards behind the walls. Secondly, until recently wealthier

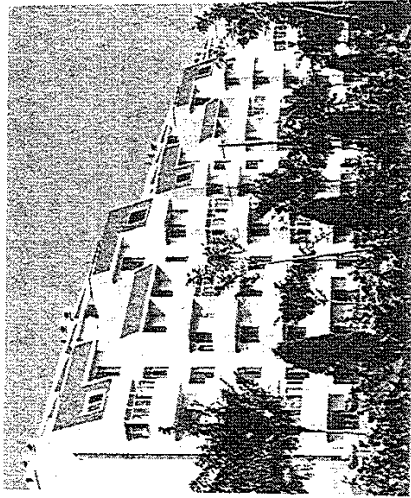


Figure 46. New residential environment in Beijing.
(By author, Wanke Garden,
September 1999)

households had limited alternatives to the traditional courtyard house. However, economic change in past decades has now resulted in a greater choice of housing type which may lead to the development of middle and upper class enclaves. The increasingly dilapidated condition of traditional housing has begun to repulse wealthy residents and attract them toward to modern housing forms.

From Homogeneity to Heterogeneity (Housing Development and FAR)

Associated with population growth has come an enormous demand for housing. When modern housing estates were developed in Beijing under the advice of soviet experts during the 1950's, there was, except for the courtyard housing, no other housing model available even for suburban development. This was the case even though the old City's population had more than doubled between 1911 and 1949 (Abramson 1997).

To meet growing housing needs, the government took several different approaches to housing development. The traditional courtyard housing form was thought to be inefficient because of its low density, so high-density housing models appeared inevitable. The first contemporary wave of widespread housing construction occurred in the 1950s when China had just become established as a republic and was under the influence of socialist ideology. During that period, housing construction was dominated by mid-rise apartments of three to six stories (Fig.47). Since the late 1970s, the city has undergone a second massive wave of housing construction characterised by high-rise apartments (Fig.48). From 1949 to 1983, urban housing completions in Beijing reached 32.232 million square meters, or about 948,000 square meters per year (Yan & Marans 1995). The characteristic image of Beijing has changed from courtyard dwellings throughout most of the city in 1949, to the present combination of different housing types and scales. In 1985, the average area of a residence in

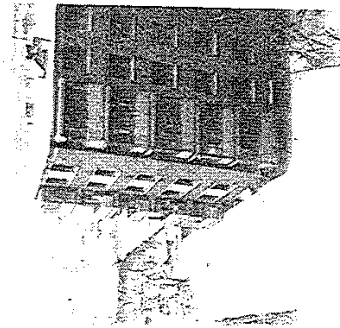


Figure 47. Mid-rise residence in Beijing.
(From Wu 1994: Fig.5-22)

Beijing was 6.2 square meters per person, which was slightly higher than other municipalities such as Tianjing and Shanghai (Yang 1994). However, with the ever-increasing population, severe housing shortages remain a significant problem to the present day. Keeping pace with population growth and the ever-increasing demands for an improved standard of living have therefore become important tasks for the longer term.

In a large city like Beijing, with a dense population distribution and an acute land shortage, an increase in residential density is unavoidable. The Floor Area Ratio (FAR) — the ratio of the total floor space of a built area to the total size of its lot — is used as the index of building density. In order to accommodate more people in a limited area, design strategies have been used to obtain a higher FAR. High-rise accommodation has been taken as the primary approach to achieving high FAR. However, it has been illustrated that on a residential lot, the FAR of freestanding tower housing starts to decline when the number of floors is over ten. In terms of residential layout, the FAR of a courtyard block is much higher than that of the freestanding tower when they have the same number of floors (MVRDV 1998). The implication of this study is that increasing the number of the floors does not automatically mean that the FAR is enlarged. In addition, a high density is usually obtained by sacrificing the amenity of the environment. Therefore, rather than seeking a high FAR, a FAR in which the amenity of the living environment is maximised might be a more appropriate objective.

Contemporary Urban Development Control

The centre of Beijing's planning power lies in the Capital Planning Construction Committee (首都规划委员会 CPCC), and many major municipal departments under the CPCC are involved in city planning (Fig.49). The most important agency is the Municipal Urban Planning Bureau (北京市规划局 MUPB), which to a large extent determines the course of the

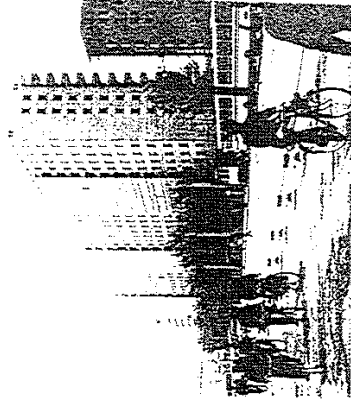


Figure 48: High-rise residence in Beijing.

(By author, Qianmen, September 1999)

city's growth and change, especially in housing development. All of the departments have corresponding offices in the city's urban district and rural counties (the District Urban Planning Agencies are only in charge of projects smaller than 1000 square meters). Beijing's planning agencies are organised vertically in the administration network and co-operate horizontally to carry out the city's planning tasks.

In Beijing, the MUPB is responsible for appraising all development projects. The location, area, land property, construction size and height of development projects are required to meet the standards of the City's Comprehensive Plan (Appendix 1). A series of appraisals are required before a design project is approved for construction (Planning Application Manual 1995) (Fig.50). In appraising a design project, the committee requires developers to submit a full set of engineering drawings for the entire site. The design plans have to accord with conditions prescribed by the City's Detailed Development Control Plan (Appendix 1). In terms of housing development projects, a set of design indexes (such as land area, construction area, residential area and density) is also required.

It has been argued that the current planning system in China has many limitations. Firstly, the traditional 'scientific' mode of planning and the production of blueprints are not effective in guiding development, especially when the introduction of various reforms has made urban development less predictable and manageable. Secondly, public participation is absent in the planning process and urban development could be manipulated by the few who have access to political power. As a consequence, the development control system is a 'black-box' operation (Ng and Wu 1995).

In housing development and redevelopment projects, the government has to rely on housing developers to provide public infrastructure and facilities on their blocks. Therefore, as a part of a deal, plans may have to be compromised in the course of development. Moreover,

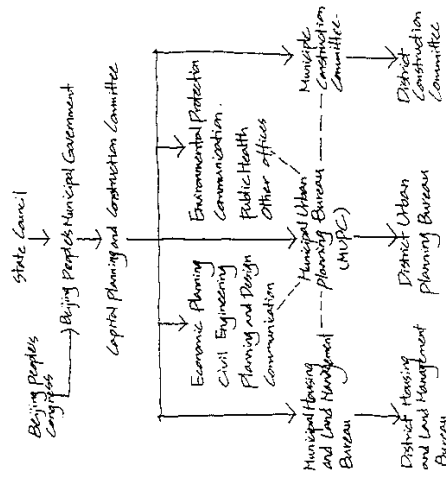


Figure 49: Planning organisation in Beijing.

(By author)

developers have to seek high profit in as short a time as possible. It is therefore easy for a housing development project to become another modern apartment scheme because of the high investment returns available. Secondly, housing is a dynamic sector in which a mere blueprint is no longer sufficient to monitor development effectively. The Detailed Development Control Plan provides a set of criteria for each block, such as construction area, density, and height regulation, with which the housing development projects must comply. As long as these criteria are complied with, government control over projects is limited. However, from another point of view, the planning regulations have restricted housing design. In order to get approval from the planning authorities, housing projects have to comply with a series of indexes detailed in the government published Housing Design Criteria. Tired of calculating various indexes, designers have found it most convenient to borrow from previous housing plans with little alteration. Therefore the outcome of their designs is neither innovative nor an accurate cultural manifestation. Thirdly, some bias appears in the design process when a designer attempts to integrate aspects of traditional housing into new designs. This very attempt to achieve continuity of dwelling culture often stigmatises the project in the eyes of architects and officials who feel that the new housing is hardly better than the old. In this situation, it seems inevitable that new apartments will take the place of courtyard housing.

In terms of planning implementation, since the current development control system is a 'black box' operation, it is difficult to judge whether development controls have been vigorously implemented. Although a project may have been appraised and amended according to the city's Comprehensive Plan and Detailed Plan, the directions and modes of development are to large extent uncertain. The outcome of a development may not tally with the approved documentation, due to the lack of implementation surveillance.

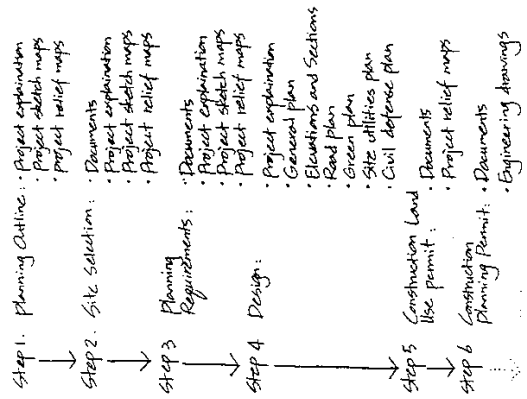


Figure 50: Development application procedure.
 (Source: Planning Application Manual 1995)

3.3 Conditions of Beijing Courtyard Housing in Transition

In the process of modernisation, the city of Beijing has reached the difficult position of simultaneously passing through a stage of rapid environmental change and also of unprecedented awareness of the need for preservation. Many cultural phenomena draw on tradition to some extent. When the replacement of something old with something new occurs, it is seen as posing a threat to the continuity of the cultural phenomena. During a time of rapid new housing development in Beijing, traditional courtyard housing is facing such a conflict between modernity and tradition.

Courtyard Housing in Contemporary Beijing

As discussed previously, courtyard housing in Beijing exhibits a unity between itself and the larger scale of the city. Therefore, the problem of courtyard housing in Beijing relates to not only the housing form, but also extends to the neighbourhood, and to the larger urban patterns.

The City

In the early 1950s, there was 17.6 million square meters of old dwellings in Beijing, most of them being of the courtyard type. Since then courtyard housing within the city walls has been demolished (Fig.51) at the rate of 100,000 square meters per year to make way for modern construction and new infrastructure. By 1985, 5.34 million square meters of old residences had been demolished and there were only about 8 million square meters of courtyard housing left in Beijing (Lu & Wang 1996). According to an analysis of aerial

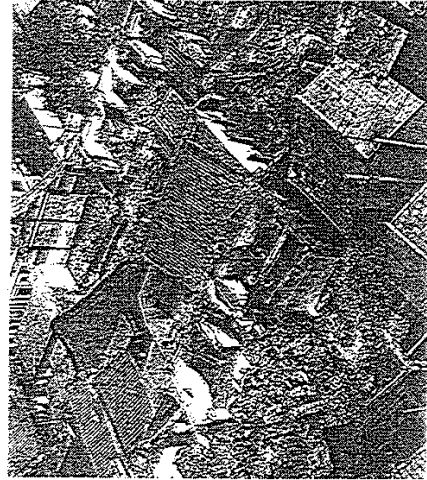


Figure 51: Courtyard housing being demolished.
(By author, Pingan Street,
October 1998)

photographs published in 1989, there were only 805 relatively large courtyard houses in good condition remaining in the old city outside the designated conservation area. These occupied only 115 hectares, or about 1.9 percent of the Old City's total land area of 6200 hectares (Abramson 1997).

Furthermore, the cultural value of those remaining courtyard houses has not necessarily survived. If traditional housing is defined strictly according to the image and layout of classical courtyard housing, then by the 1980's Beijing had very little of this type remaining. A major reason for the lack of cultural value attached to these remaining courtyard houses is their dilapidation (Fig.52). This dilapidation is due to poor maintenance and overcrowding. A housing census conducted by the Municipal Property Management Bureau in 1983 showed that 1.9 million square metres of courtyard housing (24 percent of the city's total courtyard housing stock) in the old city was classified as structurally unsuitable or unsafe for living (Lu & Wang 1996). Anecdotally, the amount of unsafe housing appears to have drastically increased in the years since this census, although recent data is not available.

Existing courtyard houses have been damaged by illegal building and over occupancy. Originally built for an individual, multi-generational family, a courtyard compound now accommodates three, four and sometimes more households (Fig.53). Each family in the compound vies with the other to put up temporary buildings and extend their living area. This situation was exacerbated by the 1976 earthquake. A survey of an area along Nanchizi Street (near the Forbidden City) reveals that in some dilapidated and crowded areas, self-built buildings average about 45 percent of the official housing area, and in the worst places reached a maximum of 57 percent (Lu & Wang 1996).

The poor physical condition of current courtyard housing has put great pressure on the municipal government to conduct redevelopment programs. Till 1996, the Municipal Housing

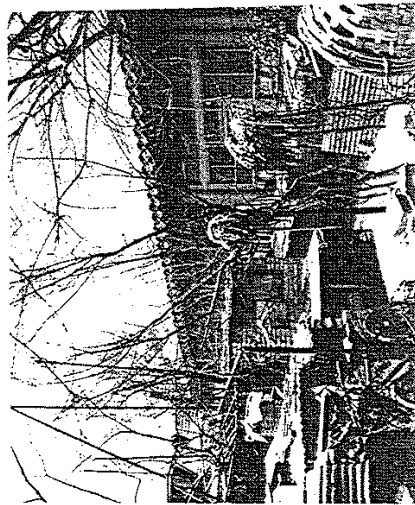


Figure 52: Dilapidation of courtyard housing.
(By author, Maoer Hutong,
September 1999)

Management Bureau had implemented redevelopment projects covering 22 square kilometres. Thus the redevelopment program potentially targeted more than one third of the old city area (Tan 1997). This means that more and more courtyard-housing neighbourhoods will be redeveloped and the amount of traditional housing stock will decrease progressively as the city redevelops.

As part of the process of city redevelopment, the demolition of existing large areas of housing and the construction of new multi-story buildings have threatened the residential fabric of Beijing. A significant part of the traditional dwelling culture of Beijing is therefore disappearing at a very fast rate. As a result, over recent years more and more attention has been paid to the conservation and rehabilitation of Beijing's shrinking traditional neighbourhoods. For example, in 1985, the Capital Planning Bureau designated two districts as courtyard housing protection areas: Southern Luoguxiang and Xisi, which are classic courtyard housing and *Hutong* neighbourhoods. They are valued for their particularly high concentrations of relatively intact Ching Dynasty neighbourhood architecture. The total area of these two districts is 300,000 square meters. The 1993 Comprehensive Plan of Beijing City also designated 13 courtyard houses as municipal preservation sites, because they are considered worthy examples of classic Ching residential architecture (Lu & Wang 1996). Other preservation districts of courtyard housing have been listed for similar reasons. The rehabilitation of old courtyard housing is an important task in the present process of urbanisation. Nevertheless, no matter how many individual courtyard houses are preserved, rehabilitated as self-contained units out of context, they can hardly be expected to recall the condition of the residential environment during the period they are supposed to represent.

There have also been policies issued by the government to preserve the historic fabric of the city. Besides the designation of conservation areas, a height restriction plan was

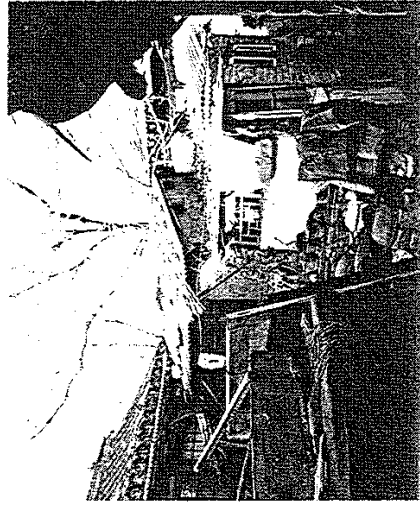
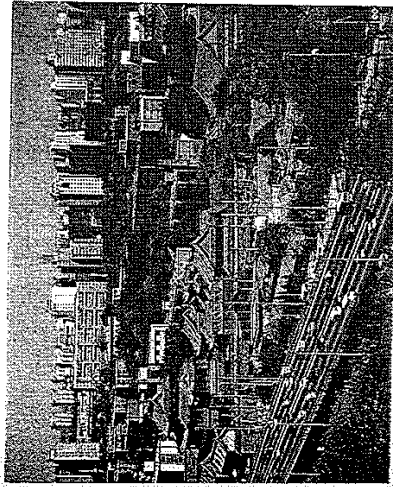


Figure 53: Crowding in courtyard housing.
(By author, Maoer Hutong,
September 1999)

constituted by the municipal government in 1987 and has been implemented by various levels of planning regulations (Wu 1994). Height restrictions of three stories are fixed around the Forbidden City and ten story limits exist within the Second Ring Road. However, new buildings have occasionally contravened these restrictions. In addition, the maximum number of floors is generally pursued to obtain the highest possible FAR. Rather than the sight of roofs and green treed areas spreading horizontally as they did in the old city of Beijing, the massing of higher and lower buildings means that Beijing is now bowl-shaped. The architectural appearance of Beijing has thus changed from an order in which the various constructions shared an identity to a disorder of mixed construction forms (Fig.54).



The Hutong

As a significant part of the urban fabric, the *Hutong* used to be active and vital places. They have now changed into chaotic domains. The *Hutong* are unable to cope with the current pressure from high volumes of traffic. The narrow *Hutongs* are congested by cars, bikes, and pedestrians (Fig.55). In the original design of courtyard housing, there was no need for parking. Today, the (nominally) seven-meter wide *Hutongs* are being used as parking spaces (Fig.56). The quiet residential environment once characterised by social communication has become a noisy chaos. During the process of city redevelopment, *Hutongs* have also been shown to have other disadvantages. The narrow dense neighbourhood where most traditional housing exists makes it difficult to construct new infrastructure for sewerage, water distribution and electricity lines. There is a greater investment required to address these problems than would be required to construct a new neighbourhood. This can, to some extent, explain the reason why so few reconstructions have been based on the tissue of the original neighbourhood.

Figure 54: Morphology of contemporary Beijing.
(By author, Guozhijian,
September 1999)

It is evident that in the dwelling culture and the urban fabric of old Beijing the *Hutong* system played an important role. The disappearance of the *Hutong* is therefore a significant loss to the traditional urban fabric.

The Courtyard Housing

Courtyard housing itself is also in a critical situation. The disadvantages now associated with this traditional housing form include poor facilities, poor infrastructure, inappropriateness to modern social structures, and inefficient land use.

Although some courtyard houses have toilets in their courtyard, most lack modern sanitary facilities. People have to walk several minutes to a public toilet which is sometimes crowded. If a house has plumbing, there is usually only one cold water tap and one drain in the courtyard serving the whole compound. It is common to see many people in a courtyard queuing for water at the peak time, as the courtyard partly serves as a kitchen space where most washing, preparation and cooking is undertaken. Modern kitchen facilities are rare. In most traditional houses, charcoal stoves are used for warmth in winter, which not only causes inconvenience but also air pollution. Many houses have minimal electrical services.

Therefore there is a contradiction between the traditional housing form and contemporary social requirements. The layout of courtyard houses, which is suited to the extended family, is inappropriate to a nuclear family in which only three or four members live together. Moreover, the traditional house types, formerly owned by single extended families, are now being shared by several households and have been divided and subdivided in such a haphazard way that a high-standard of living and a reasonable level of privacy has become impossible. The habit of extending private space by building temporary constructions (Fig.57) is the direct result of the crowded living conditions.

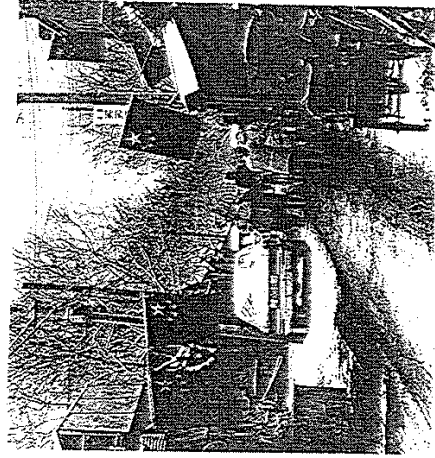


Figure 55: Crowded Hutong.
(By author, Dongsj, October 1998)

Chinese people are well aware of the fact that courtyard housing is extremely inefficient in terms of overall land use. If the pattern of courtyard housing was to continue, the distance between the city centre and the land available for housing would stretch farther and farther into the suburbs. Thus low-density courtyard housing has some definite disadvantages in the present situation where high FAR is being pursued to house the increasing population of Beijing.

The Debate over the Future of Courtyard Housing

Perhaps as a result of the replacement of traditional courtyard housing by new buildings, the popular media in China has devoted much time to nostalgic or educational reviews of life in the *Hutong*-courtyard environment. Television shows, musical videos, and dramas feature this historic architectural form. A number of photographic collections of traditional dwelling environments have been published in Beijing (*Quadrangles of Beijing* 1994; Ma 1993; Shen and Wang 1997). Moreover, some cultural tourism activities such as the "Hutong Tour" cater for those who wish to appreciate the life of the *Hutong*-courtyard environment. Such tours take visitors on bicycle-rickshaws, and the residents show the tourists into their homes, serve tea and make a traditional meal for them. The tour is actually a very natural attempt to revive the memory of the traditional residential environment. Nostalgia becomes a form of collective memory that responds to the cultural crisis of modernity. Nostalgia for the courtyard house reflects a new appreciation of the heritage significance of traditional housing.

The debate over the future of courtyard housing arises from the question of the city's future. It is agreed by Chinese scholars and authorities that to preserve Beijing as a symbol of Chinese cultural identity and continuity, its architectural heritage and urban fabric must be

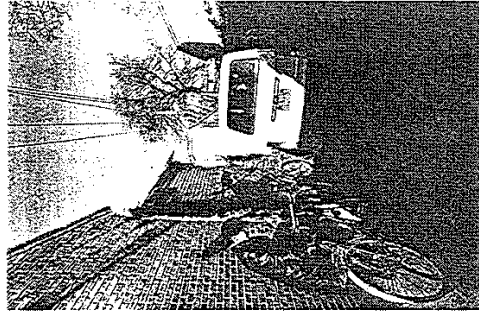


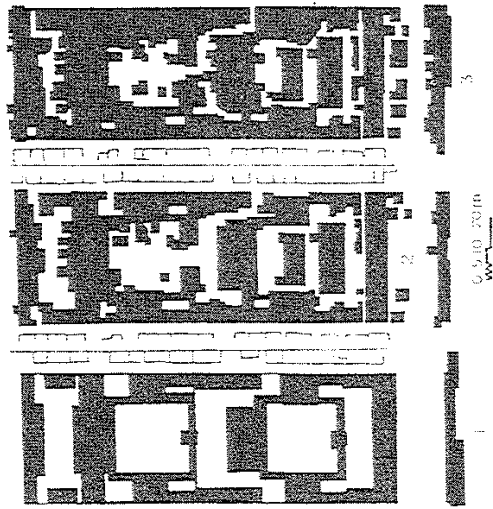
Figure 56: *Hutong as car park.*
(By author, Dongsì, October 1998)

preserved. However the visions which authorities, planners, developers and residents each hold and propose for preservation are extremely varied and often contradictory.

The usual emphasis of the conservationist position is on the character or image of the city. Unlike Shanghai (the city that exhibits all the visual attributes of familiar Western models), Beijing has inherited most of its urban character from the most recent feudal dynasties. Thus although Beijing is increasingly westernised in appearance, it continues to bear the stamp of the past. The contemporary city is focused on the traditional ceremonial axis and centre. Although the traditional housing form has been replaced by mid-rise and high-rise buildings, the historical pattern of streets, walls, and neighbourhoods continues to influence the residential morphology of the present-day city.

Just as many rapidly developing countries have raced to replace traditional building forms with modern, international designs, Beijing has its own gigantic and gaudy hotels, apartments and office buildings, built as monuments of globalisation. Erected abruptly in the midst of a drab neighbourhood with grey roofs and brick walls, the glass, concrete, or chrome high-rises were viewed as breakthrough designs at the time but are now understood as eroding the city's identity. In recent years some architects have attempted to evoke Chinese traditions by installing tiled roofs on top of modern concrete blocks. These attempts are mere fanciful impressions and do little to achieve a link between past and present.

There is a growing concern that the unique character of Beijing will be lost if redevelopment continues to pursue visions similar to Hong Kong and New York. There is therefore an argument that the traditional urban fabric and architecture should be preserved during the process of redevelopment (Abramson 1997). In one sense, there is another aspect of Beijing's environmental heritage that would serve the city's cultural future much better: its 'own' architecture. For this to happen the traditional fabric of the city needs to be respected in



- 1 Early 1950s. Floor space: 2440 sqm
A courtyard complex
- 2 Late 1970s. Floor space: 3196 sqm
131% of that in early 1950s
A multi-household compound
- 3 The compound in 1987. Floor space: 3786 sqm
155% of that in early 1950s
A courtyardless compound

Figure 57: Additions in courtyard housing.
(From Wu 1994: Fig. 4-3)

urban planning, and the new architecture needs to relate to traditional prototypes.

There are some attempts to achieve more appropriate forms of modern development which respond to the city's tradition. These include the Juer *Hutong* reconstruction,⁶ Houhai reconstruction⁷ and Xiaohoucang reconstruction projects.⁸ The approaches taken in each reconstruction vary, but the overriding concern is a growing consensus that the new architecture must be firmly grounded in traditional soil. At the very least, the architecture should be meaningful to the people of Beijing — responsive to and expressive of its socio-cultural milieu. What is also significant is that the search for a meaningful architecture appropriate to the cultural environment should also include the wider urban environment.

One advocate of development without reference to tradition is Wu Huanjia, a professor at Tsinghua University. He argues that the city must make a long and fast leap into the future (Wu 1988). His criticism of conservationists in Beijing is levelled mainly at those who, in the name of preserving the image of the historic city, would restrict the growth of the city and thereby inhibit opportunities for new cultural achievements in urban form and architecture. According to this argument, if a new and vital environment is to emerge from the current social context, it is not likely to include much of the old city's traditional fabric. Traditional architecture would therefore provide no basis for new architectural design.

⁶ Designed by Wu Liang Yong, the first phase of the project was implemented in 1990 and the reconstruction is still going to its fourth and fifth phases. Juer *Hutong* is a very explicit and conscious effort to create a 'New Courtyard Prototype' that adopts the essence of the traditional courtyard housing while also accommodating the nuclear family with modern facilities (Abramson 1997).

⁷ Designed by Zhu Zi Xuan in 1989-1991, the Houhai redevelopment project adopts the image of the classic courtyard housing in its literal entirety (Abramson 1997).

⁸ Designed by Huang Hui and Guan Chang Cun in 1989 and implemented in 1991. The new housing in Xiaohoucang is essentially a walkup apartment type, carefully designed to preserve the *Hutong* layout (Abramson 1997).

Courtyard housing is the most recent focus for this debate especially as it is increasingly the target of redevelopment planning. The future of courtyard housing has therefore been a controversial issue. Practical solutions have not yet been achieved. In terms of the existing courtyard houses, the dominant response is to strengthen protection of those few areas that are considered to represent Beijing's classic residential architecture. Another response has been to see more of the old city as culturally valuable and worthy of conservation. Unless appropriate strategies for development are identified, even efforts to preserve remaining courtyard housing will not be successful as the cultural significance of the building form will be lost. Wu Liangyong (1994) has argued that preservation efforts should not focus only on buildings or compounds that are themselves considered worthy of preservation, but should also consider various ways of harmonising this architecture with the next level of the urban scale. This encompasses both the immediate environmental context of preservation sites, and also on a more abstract level, the structures and principles governing the traditional neighbourhood environment at a scale larger than the individual house.

It is undeniable that there are requirements for new buildings as Beijing changes from a historical city into a modern city. But is it important to maintain the remnants of the city's ancient fabric to merely evoke historical tradition? Professor Wu Liang Yong states that urban housing and residential areas are all urban tissue, which have a fabric and texture vitally necessary to the constitution of the living environment. The city is in a process of metamorphosis, as is housing in residential areas. Thus, urban planning and design needs to respect and conserve important building forms while providing for modern development. This can be achieved through sensitive infill development, rather than mass reconstruction (Wu 1991).

However, such suggestions tend to give way when conservation efforts encounter

developments which are confined by various conditions such as financial feasibility, the reaccommodation of residents and the achievement of a high FAR. For example, the Chunfeng *Hufong* reconstruction (1992) failed to produce an innovative housing form when FAR became the primary design concern. In reality, present redevelopment approaches are relying on the complete demolition of existing structures and the construction of new multi-story buildings. Although some more sophisticated planning and design models which respond to the traditional residential typology have been considered, most reconstruction projects have disregarded traditional residential precedents. There is as yet no successful attempt to adapt traditional courtyard housing for modern life. At this time, therefore, an appropriate proposal for new housing design with the same cultural values as the traditional courtyard housing has great significance.

3.4 Conclusion

Although only some aspects of urbanisation in Beijing have been discussed, it is clear that transformations have occurred in Beijing and affect many aspects of the dwelling environment. Housing economics, housing policy and market conditions have put in place major changes as part of urbanisation. The changes in personal values and family structure engendered by social changes in modernity have led to expectations of new standards of living that need to be fulfilled by housing. The pursuit of FAR to accommodate an increasing population has led to the emergence of new housing forms, such as high-rise and low-rise apartments. All of these changes to the dwelling environment have lessened the demand for traditional housing.

In addition to these trends, the dilapidated condition of courtyard housing has

strengthened demand for modern housing forms. As demand for courtyard housing declines, architectural scholars in China have been beset by the question of how the character of old Beijing can be preserved while rapid redevelopment of the inner city area is occurring. As part of the urban fabric of Beijing, the preservation of courtyard housing is necessary to the conservation of the city's heritage. However, in terms of the city's future, the development of a contemporary housing form which has the same socio-cultural values of courtyard housing is perhaps even more significant, not only for the continuity of dwelling culture and for residential identity, but also to retain the city's character.

Despite the fact that the life of Chinese people has been affected by western culture and technological change, there are no indications that the traditional way of life has been completely abandoned. To a certain extent, this continuity has been reflected in the residents' socio-cultural needs for housing. This is reinforced by the survey and interviews of Beijing residents discussed in the next chapter.

CHAPTER FOUR: PRACTICES & INSIGHT

----- Surveys and Field Studies

4.1 Introduction

In trying to assess the success of housing in meeting the socio-cultural needs of the residents, people's satisfaction with their living environment is a very important criterion. The main objective of this chapter is to examine residents' assessments of the traditional housing environment and their evaluation of reconstructed courtyard housing. Data from both the author's own fieldwork and surveys by other researchers is used.

The first section of this chapter sets out the results of previous studies, and the results of a survey and a set of interviews with Beijing residents which were conducted by the author. The results of this fieldwork are analysed in conjunction with previous field researches on courtyard housing. The last section of the chapter examines residents' responses to a courtyard housing reconstruction project. By analysing the housing design and the residents' post occupancy satisfaction, this section evaluates courtyard housing reconstruction on the basis of social factors influencing resident satisfaction with housing.

4.2 Data from Previous Studies

From the preceding discussion of urbanisation in China, it is evident that while courtyard housing may have been the ideal physical setting for traditional life, it may no longer be appropriate to contemporary Chinese society. As a result new housing forms have emerged. Nevertheless, research into housing in Beijing by numerous authors (Mann 1984; Song 1988; Bian 1989; Ekblad 1992; Yan and Marans 1995; Tan 1997; Abramson 1997) still shows a considerable level of preference for traditional courtyard housing. These studies have demonstrated that residents perceive something is lost when traditional housing forms disappear. While meeting many needs of modern living, new apartment housing represents a radically different spatial environment from that valued in the traditional courtyard house (Mann 1984). Gone is the *Hutong* as an arena for community exchange. Gone is the courtyard wall as a means of completely separating the private dwelling from the street. Gone is the gate as both divider and provider of access. And gone is the courtyard, not only as a source of sunlight, fresh air and greenery for the family, but also as an essential, fundamental connection with the earth and sky. Within modern apartment complexes there is rarely a semi-private gathering space to parallel the dynamic 'community living room' of the traditional *Hutong*. Instead, there is a form of spatial abruptness in which expansively open public space often extends right to the building entrance.

The shift from courtyard housing to modern apartments involves not only the transformation of housing form but also what might be described as a characteristic shift in the adaptation of lifestyle. It has been suggested that this fundamental shift has a negative impact on the lifestyle of the Chinese family (Song 1988; Ekblad 1992; Yan and Marans 1995; Tan 1997).

One advantage of courtyard housing is its close proximity to the central area of Beijing. But it could also be argued that the desire for a traditional living environment might also account for the residents' preference for courtyard housing.⁹ After surveying 125 households in Beijing, Ekblad (1992) states that many people, even taking account of the deficiencies of traditional housing, would prefer to live in a small courtyard house than a small apartment in a high rise building.¹⁰ It has been found that many residents of courtyard houses are reluctant to move to new apartments even though they are unsatisfied with the living conditions provided by courtyard housing.¹¹ The assessment made by residents about courtyard houses also shows that the traditional courtyard house has a strong positive influence on privacy, territoriality, activities of children and the elderly, and child rearing.

Compared to the positive influence of courtyard houses on the residents' life, the negative impact of modern apartments has also been demonstrated. Surveys have shown that although the physical conditions have been greatly improved by moving to new apartments, there is a negative response when comparing the new environment to the old (Tan 1997). Some residents feel something is missing in the new, modern building. Many residents are not satisfied with the new apartment environment and have experienced psychological trauma

⁹ A survey of more than 400 residents in Northern Xisi district was conducted by the Urban Planning Department of Tsinghua University. The result of the survey indicated that 54.2% of residents prefer reconstruction of 2-3 story housing on the original site; 42.4% of the residents prefer improving living conditions based on the original housing; and only 3.3 per cent of the residents would like to move into new high-rise apartments (Song 1988:62).

¹⁰ Sixty per cent of the people who presently live in courtyard houses wish to live in densely populated, mainly single-storied, courtyard houses (Ekblad 1992:198).

¹¹ In Chaonei District, 54% of the residents are unsatisfied with their present living conditions, while only 5% of them would like to move to new apartments; 18% of the residents prefer maintaining the status quo; 68% suggest reconstruction of existing housing (Tan 1997:71).

because of the decrease in social communication and the shift in living environment.¹² The negative impact is more obvious and serious for the elderly and children because they are less mobile or require supervision. The courtyard-housing environment serves them well, while the modern apartment environment restricts their activities (Yan & Marans 1995). In this case, even the messy environment of a courtyard house that was shared with several families could be a happy memory.¹³

The results of these studies suggest that, although they bring some advantages, there is a definite loss in the new, modern housing forms. Perhaps sharpest is the loss of housing as a meaningful place where people may simultaneously experience individuality and belonging. For Chinese who are still strongly influenced by the traditional code, some traditional aspects of life persist in the time of modernisation. Therefore, the traditional housing environment, despite its disadvantages, may still have some significant lessons for modern housing.

4.3 Author's Survey and Interviews

In order to obtain more information about perception of courtyard housing, a survey and

¹² Of the 119 households who move from courtyard houses to modern apartments that have been surveyed, 42% of them felt bored due to the decrease of social communication and 39% of them are unsatisfied with the relationship among new neighbours. Even 23% of them felt psychologically lost and sad about the shift (Tan 1997:76).

¹³ In a seven-year-old boy's drawing of his old courtyard house home and new apartment house home, his image of the courtyard house extended far beyond the boundary of his family's property. It also included the courtyard, entrance and corridor where he had played with neighbouring children. Those spaces were so intimate to him and constituted such an important part of his life, that he considered them as part of his 'home'. In contrast, the new apartment is clearly defined by walls of the unit that confined his daily activities. The drawings reflected how the change of living environment affected both his residential behaviour and perceptions of home (Yan & Marans 1995:34).

a set of interviews of Beijing residents were conducted by the author in October 1998 and September 1999 respectively. A cross-sectional survey method¹⁴ and face to face interviews were mainly adopted, together with observation and photography. The objective of the survey and the interviews was to comprehend the residents' assessment of the courtyard housing environment. Questionnaires and interviews were therefore designed to gather information about living conditions, neighbourhood relationships, residential behaviour and, importantly, the respondents' own opinion about the living environment.

It must be noted that the neighbourhood and the respondents included in the survey and the interview are not representative of the full range of residents and residential environments in the city today. The limited scope of the investigations therefore restricts their applicability. However, a statistically complete survey has never been the objective of this research. The field investigations were conducted to help support the hypothesis of the research and to supplement the other research methods which included a historical review, empirical analysis, theoretical references, and practical evaluation.

Survey

Background to the Survey

The survey was carried out in a neighbourhood residential district in the Dongsi area (Fig.58). The selection of the residential district was based on the following criteria. Firstly, it comprises a variety of housing types, namely, low-storey housing, courtyard housing, high-rise

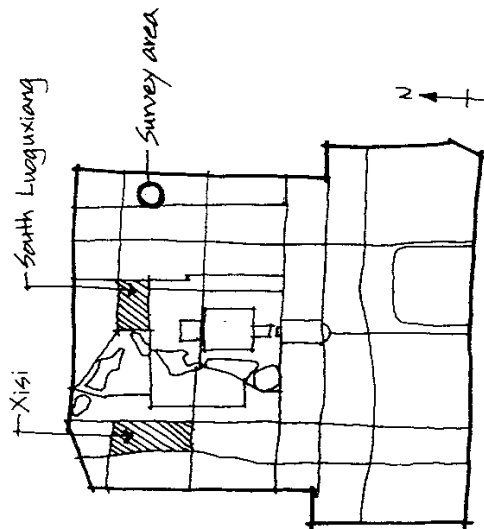


Figure 58. Location of the area surveyed.
(By author)

¹⁴ Cross-sectional surveys are designed to collect data at a single point in time from a sample of that population (Bechtel et al 1987:48).

and middle-rise apartments. Secondly, it is located in a medium geographical position, at the edge of the inner city. Thirdly, in order to reduce the possibility of bias due to excessive resident dissatisfaction with poor physical infrastructure, the physical condition of the housing is generally adequate.

After the selection of the residential district, a self-administered survey method was adopted. The questionnaires were distributed to the individual homes and were collected two weeks later from the same households. This method afforded household members the opportunity to discuss or consult with one another prior to completing and returning the questionnaire. It was, therefore, expected that the results would represent the opinion of more people than the limited number of respondents. One hundred and fifty copies of the questionnaire were delivered and 112 of these were collected, including four of which were considered invalid owing to lack of information.

Respondents could be divided into three groups: (i) those people who are now living in courtyard houses (26%); (ii) those who used to live in courtyard houses (40%); and (iii) those who have never lived in courtyard houses (34%). Respondents who were in the latter two groups were all living in apartment buildings and low-storey houses. Of those who responded to the questionnaire, 39% were male and 61% female. The age of the respondents ranged from 14 to 60, with children under 18 and elderly between 50-60 being 7% and 23% respectively. Seventy per cent of respondents were defined as young or middle aged (Table 1).

It is important to note that besides the respondents themselves, it was possible that other members of the household could have participated in answering the questionnaire. Thus more than 320 residents were probably involved in the survey.

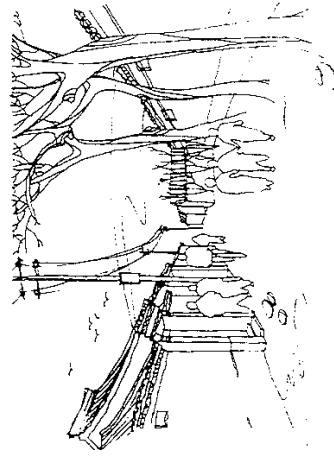


Figure 59: Sketch made by the author during the investigation (1999).

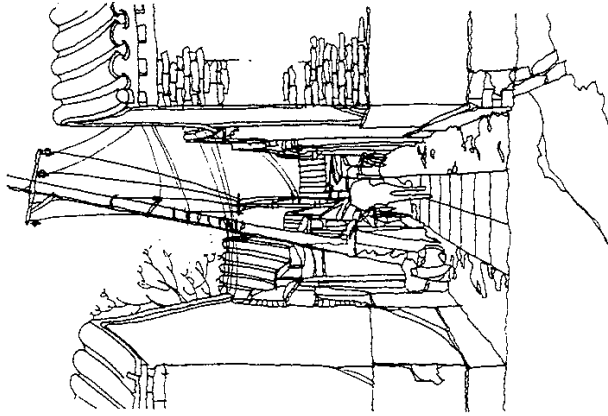


Figure 60: Sketch made by the author during the investigation (1999).

Table-1 Composition of the Survey Population (Persons)

	Sex		Age			
	Male	Female	1-18	19-30	31-50	50-60
Respondents living in courtyard houses	13	15	1	9	11	7
Respondents used to live in courtyard houses	17	26	1	15	14	13
Respondents never lived in courtyard houses	12	25	6	16	10	5
Total respondents	42	66	8	40	35	25

Design of the Survey

The questionnaire was organised into three sections: (1) *Investigation of the Status Quo*; (2) *Housing Preference* in terms of residential type and housing forms, and impression of courtyard housing environment; and (3) *Suggestions* about the future of courtyard housing and ideal living environment.

Interpretation of the Survey

(1) Investigation of the Status Quo

Family Structure

In terms of family structure, the number of respondents from nuclear families (52%) was slightly higher than from extended families (48%). But the tendency towards the nuclear family might be indicated by the fact that 73% of respondents prefer the nuclear family rather than the extended family (Table-2).

Table-2 Present Family Structure and Preferred Family Structure of the Respondents (Percentage)

	Family Structure	
	Nuclear family	Extended family
Present family structure	52	48
Preferred family structure	73	27

▪ Living Condition of Courtyard Housing

Among those who were living in courtyard houses, most shared with other families. Numbers ranged from two to 22 households per courtyard house. Generally there were more than two generations in the household and they had lived together in the same house for quite a long time, the longest occupancy being 45 years.

The main problems of the courtyard dwellings were identified as a lack of living area and poor facilities (Table-3). Some residents had to share a bedroom with their children and a private bathroom and kitchen was viewed as a luxury. Only 7% of the residents in the survey had central heating in winter. Others had to resort to coal heating or a self-made water radiator. Gas piping was scanty in the courtyard houses. 76% of the residents used gas tanks and had to get a new one from a distant gas station each month. Another 15% of the residents used coal for cooking, which was a cause of serious pollution.

Table-3 Utilisation of Space and Facilities in Courtyard Houses (Percentage)

	Living room	Bedroom	Kitchen	Bathroom	Storeroom	Central heating	Gas piping
Yes	61	100	61	30	15	7	0
No	39	0	39	70	85	93	100

▪ Living Condition of Apartments and Low-storey Housing

The living conditions of residents in low-storey housing¹⁵ were similar to those in courtyard housing. Most of the low-rise houses were built quickly and simply to house the

¹⁵ Most of the existing low-storey houses are the dormitories built for working units in 60's and 70's to relieve the housing shortage. They are two or three storey buildings with single rooms. A public kitchen and a bathroom are shared by the residents living on the same level.

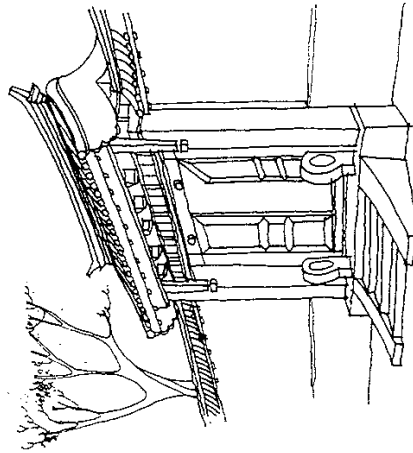


Figure 61. Sketch made by the author during the investigation (1999).

increasing population, so the living facilities were extremely basic.

The situation is much better in apartment buildings (Table-4). All of the apartments surveyed had a bedroom, kitchen and bathroom although sometimes these were too small to fulfil living functions. Most apartments had central heating and 82% had gas piping.

Table-4 Utilisation of Space and Facilities in Apartments (Percentage)

	Living room	Bedroom	Kitchen	Bathroom	Storeroom	Central heating	Gas piping
Yes	70	100	100	100	32	92	82
No	30	0	0	0	68	8	18

(2) Housing Preference

Impression of Courtyard Housing

In terms of the residents' impressions of courtyard housing, survey results indicated that, among all the residents surveyed, responses of 'like very much' (26%) and 'like somewhat' (65%) were much higher than 'dislike somewhat' (9%). There were no responses of 'dislike very much' (0%) (Table-5).

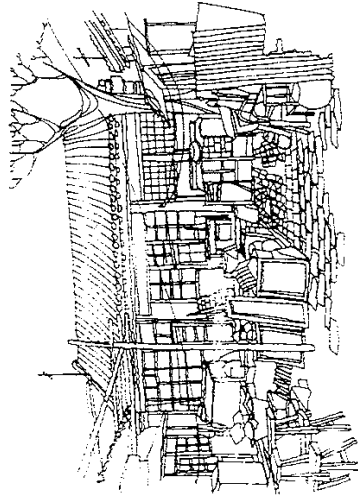


Figure 62: Sketch made by the author during the investigation (1999).

Table-5 The Residents' Impression of Courtyard Housing (Percentage)

	Like very much	Like somewhat	Dislike somewhat	Dislike very much
Respondents living in c-h	38	54	8	0
Respondents used to live in c-h	19	70	11	0
Respondents never lived in c-h	24	68	8	0
Total Respondents	26	65	9	0

c-h: courtyard houses.

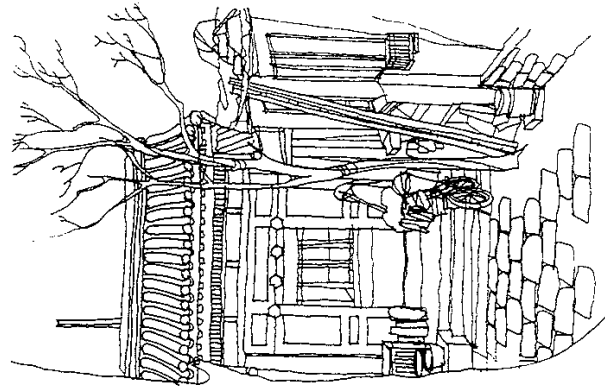


Figure 63: Sketch made by the author during the investigation (1999).

- Satisfaction with Courtyard Housing

The courtyard was highly rated by the respondents (72%) as an aspect of courtyard housing that accounted for their satisfaction. Other aspects considered as advantages of courtyard housing were its good location, quiet living environment and the physical environment being composed of *Hutong* and courtyard houses (Table-6).

- Dissatisfaction with Courtyard Housing

Sixty seven per cent of the respondents considered that courtyard housing had poor infrastructure and poor public facilities. Sixty per cent regarded sharing with other families as a deficiency. Other aspects, such as lack of parking space and exterior circulation between rooms were all rated by the respondents to varying degrees as being disadvantages of courtyard housing (Table-6).

Table-6. Residents' Satisfaction and Dissatisfaction of Courtyard Housing (Percentage)

	Satisfaction	Dissatisfaction
Position and transportation	32	Sharing with other families 60
One story housing	12	Noise 38
Appearance and color	23	Bad infrastructure and public facilities 67
Physical environment	42	Orientation 26
Neighbourhood	21	Inconvenience without interior corridor 27
Quiet	29	No parking provision 21
Courtyard	72	
Safety	18	

- Preferred Residential Type

The respondents were asked to rate their preferred housing type among the four

categories, based on the assumption that they were in the same position, had the same facilities and infrastructure and the same living space for the household. Forty three per cent of respondents preferred courtyard housing. Between high-rise and middle-rise apartment housing, middle-rise was rated higher than high-rise apartments (Table-7).

Table-7 The Preferred Residential Type (Percentage)

	Courtyard house	Middle-rise residence	High-rise residence	Others
Respondents living in c-h	53	33	14	0
Respondents used to live in c-h	48	29	23	0
Respondents never lived in c-h	27	43	27	3
Total respondents	43	34	22	1

c-h: courtyard houses.

• Preferred Residential Plan

Four different residential plans were provided to the residents to make their preference. The 'courtyard' plan (A) was residential buildings built around a big courtyard. The 'slab' plan (B) was rectangular buildings sitting parallel to each other. Compared to the courtyard plan, the 'U' shape plan (C) had buildings on three sides and open on the end. The 'free-standing' plan (D) referred to a compact arrangement of units in residential towers.

The courtyard plan was rated as the most highly favoured (43%), followed by the 'slab' plan (22%) and the 'U' shape plan (21%), while the free-standing tower plan (10%) that is widely used in modern residence was the least favourite type (Table-8).

• Impression of the Hutong

All the respondents were asked whether they liked the Hutong. Eighty eight per cent of

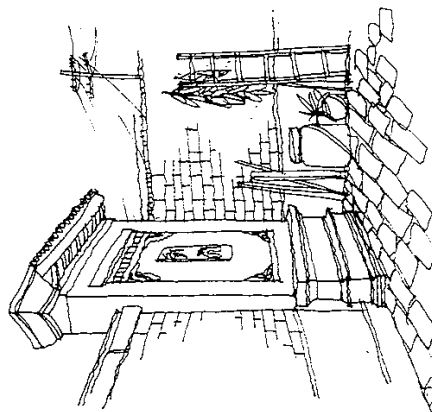


Figure 64: Sketch made by the author during the investigation (1999).

the respondents gave a positive answer. Among the respondents who were living in courtyard houses, 93% of them liked the *Hutong* very much and 52% often spend some time in the *Hutong* to talk with neighbours.

Table-8. The Preferred Residential Plan (Percentage)

	Courtyard	'slab' plan	'U' shape plan	Free-standing	Others
Respondents living in c-h	39	14	39	8	0
Respondents used to live in c-h	45	23	16	9	7
Respondents never lived in c-h	44	24	13	13	6
Total respondents	43	22	21	10	4

(3) Residents' Suggestions about their Living Environment

• The Future of Courtyard Housing

In terms of the conservation of courtyard housing, 36% of the respondents thought that they should be partly protected, while 53% thought they should be physically improved based on original building fabric. Nine per cent of the respondents believed they should be totally protected and 2% of the respondents believed they should be completely demolished.

• Response to Courtyard Housing Reconstruction

Questions were also asked about two courtyard housing reconstruction projects, the Juer *Hutong* and the Xiao Hou Cang, to determine whether the residents knew the projects. The respondents' answers indicated that the reconstruction projects had impressed them to varying degrees. Some responses declared a wish to reconstruct their own courtyard housing neighbourhood.

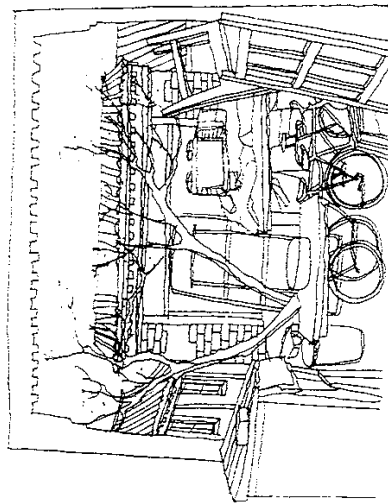


Figure 65: Sketch made by the author during the investigation (1999).

• Ideal Living Environment

At the end of this questionnaire, the respondents were asked to describe their ideal living environment. Efficient living space, good infrastructure and facilities, safety, and good neighbourhood relationships were identified as the crucial components of an ideal living environment.

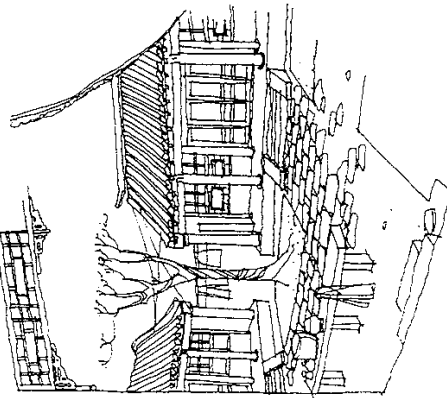


Figure 66. Sketch made by the author during the investigation (1999).

Table-9 Residents' Expectations of an Ideal Living Environment (Percentage)

Ample living space	83	Quiet	34
Good infrastructure and facilities	88	Safety	82
Physical environment	47	Parking provision	8
Natural environment	55	Convenient transportation	45
Good neighbourhood relationship	63	Orientation	5

Conclusions Drawn from the Author's Survey

1. Change in Family Structure

With progress in society and changes in the way of life, the family structure has been modified and the nuclear family has become the preferred type over the extended family. This tendency was also shown in other previous surveys (Ekblad 1991; Tan 1997).

2. Positive Aspects of Courtyard Housing

There are positive aspects of courtyard housing which satisfy residents: the existence of the courtyard, the quiet environment, the good location and their unique appearance.

3. Negative Aspects of Courtyard Housing

Definite disadvantages exist in the condition of courtyard houses, such as the poor infrastructure and facilities, as well as a lack of living space, which is more severe in situations

where several families have to share the space.

4. Positive versus Negative

To some extent the positive aspects of courtyard housing outweigh the negative ones and appear to lead to residents' preference for courtyard housing rather than modern apartments.

5. Significance of the *Hutong*

The data indicates that the significance of the *Hutong* as a community space is recognised as valuable by the residents.

Interviews

Background to the Interviews

Resident interviews were conducted in Maoer *Hutong* in Southern Luoguxiang area, which is the biggest courtyard housing conservation district in Beijing (Fig.67). The selection of this area was based on several considerations. Firstly, this area has maintained the basic pattern of courtyard housing since the Ching Dynasty, and could be considered a typical traditional courtyard housing neighbourhood. Secondly, as a conservation district, the physical condition of the courtyard houses in this area is fairly good and the population density is average. Thirdly, geographically this area is only two kilometres from the site of the first questionnaire and in the same district of the city. The respondents to the questionnaire and the interview could therefore be thought to be from the same demographic group.

The name of the *Hutong*, Maoer, is from the Ching Dynasty. The *Hutong* is 585 meters long and seven meters wide running east-west, with courtyard houses on both sides. According to the information from the neighbourhood organisation, 17% of the population in

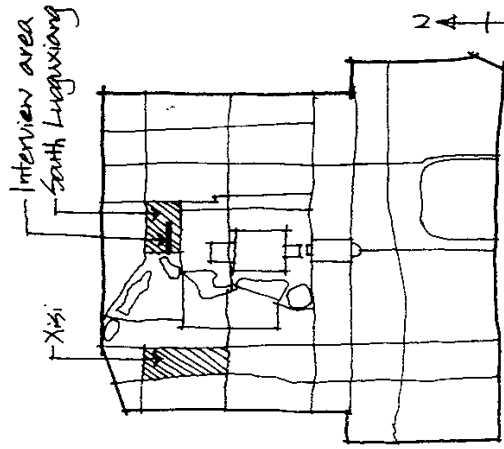


Figure 67. Location of the Maoer *Hutong*.
(By author)

this *Hutong* are children under 18; 64% are young and middle aged people and 19% are elderly. The economic standard of the residents in this *Hutong* is average for the city, if not slightly lower. In terms of living area, 22% of the households have 4 square meters or less per person; 60% have 4-8 square meters per person; 17% have 8-15 square meters per person; and about 1% have 15 square meters or more.

With the co-operation of the neighbourhood organisation of Maoer *Hutong*, two courtyard houses (dwellings A and B) were selected as the sample residences in which the interviews would be conducted. Dwelling A is a longitudinal complex model with three courtyards, now accommodating 11 families consisting of 37 persons (Table-10). Dwelling B is the home of nine families consisting of 27 persons who are sharing the double-courtyard house (Table-11).

Table-10 Composition of Population in Maoer Hutong Dwelling A

Family 1: grandmother (63)
Family 2: father (44) + mother (42)+ son (15)
Family 3: mother (60) + son (37) + daughter-in-law (31)
Family 4: grandfather (64) + daughter (38) + son-in-law (40) + son (32) + grandson (14)
Family 5: father (46) + mother (45) + son (15)
Family 6: father (45) + mother (45) + daughter (12)
Family 7: grandmother (56) + son (35) + daughter-in-law (32) + grandson (9)
Family 8: grandmother (61) + granddaughter (14)
Family 9: grandmother (80) + father (64) + mother (59) + granddaughter (33) + granddaughter (28)
Family 10: grandfather (79) + grandmother (74) + mother (50) + grandson (26) + granddaughter (24)
Family 11: father (38) + mother (34) + son (12)

Total: 11 families, 37 persons. Bold: respondent.

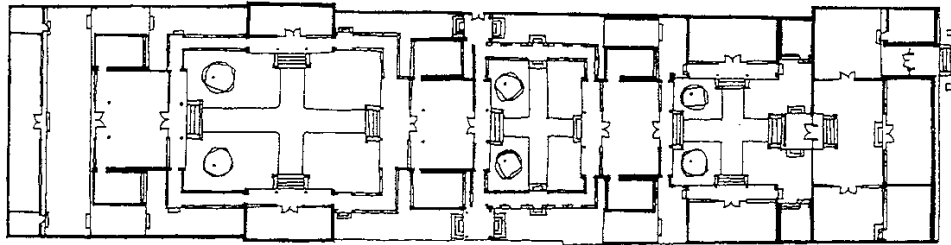


Figure 68a: Original plan of dwelling A.
(After Ma 1999:Fig.2-13)

Table-11 Composition of Population in Maer Hutong Dwelling B

Family 1: older sister (34) + younger sister (28)
Family 2: father (38) + mother (32) + son (8)
Family 3: grandfather (64) + grandmother (60) + grandson (11)
Family 4: husband (50) + wife (50) + housekeeper (30)
Family 5: husband (35) + wife (29)
Family 6: father (46) + mother (41) + daughter (20)
Family 7: father (41) + mother (40) + daughter (14)
Family 8: grandmother(80) + son(61) + daughter-in-law (58) + son (54) + grandson (28) + grandson (24)
Family 9: husband (56) + wife (53)
Total: 9 families, 27 persons. Bold: respondent.

Although there are some self-built constructions in the courtyards, basically, the courtyard house typology of both dwellings has been maintained (Fig.68,69). The 20 interview respondents were the heads of the household. Having lived in the courtyard houses for a comparatively long time (most of the respondents had lived in the house for more than 10 years; the longest occupancy was 48 years), the respondents had a deep understanding of the courtyard-Hutong neighbourhood.

Design of the Interviews

The interview questions were structured around three components. (1) *Physical Conditions* asked questions about the more detailed physical arrangement of the household and the residents' satisfaction of courtyard houses. (2) *Residential Behaviour* explored how people used their houses, and their social activities including communication, privacy, and compatibility with neighbours. (3) *General Questions* sought to find out respondents' opinion on the changes in housing form, as well as their responses to questions about identity.

neighbourhood relationships, security and privacy. The questionnaire consisted of a series of questions and statements, to which the respondents were asked to respond with 'yes' or 'no' and explain their agreement and disagreement.

Interpretation of the Interviews

(1) Physical Conditions

• Living Conditions

In the two courtyard houses studied, the average living area per person was above eight square meters, which could be rated as 'moderate' for Beijing.

There were living rooms and bedrooms in each household, although sometimes one room served both functions. As most households had no kitchens, some self-built extensions were used as kitchens. Toilets were scanty in the compound and the nearest ones were the public toilets 30 metres away in the *Hutong*.

• Evaluation of Courtyard Housing

Based on the data obtained from the interviews, ample sunshine, ventilation, security, a low number of storeys, and neighbourly co-operation were identified as advantages of courtyard housing, while high density, self-built additions, bad facilities and infrastructure were stated as disadvantages. It is interesting to note that many residents indicated that "gaining breath from the earth", which is a concept of *Feng Shui* theory, was a great merit of courtyard houses, thus indicating the continuing influence of cosmology on Chinese life.

In terms of the physical arrangement of courtyard houses, the wall, the gates, the enclosure, and the courtyard were highly rated and indicated to be the positive elements of a courtyard house.

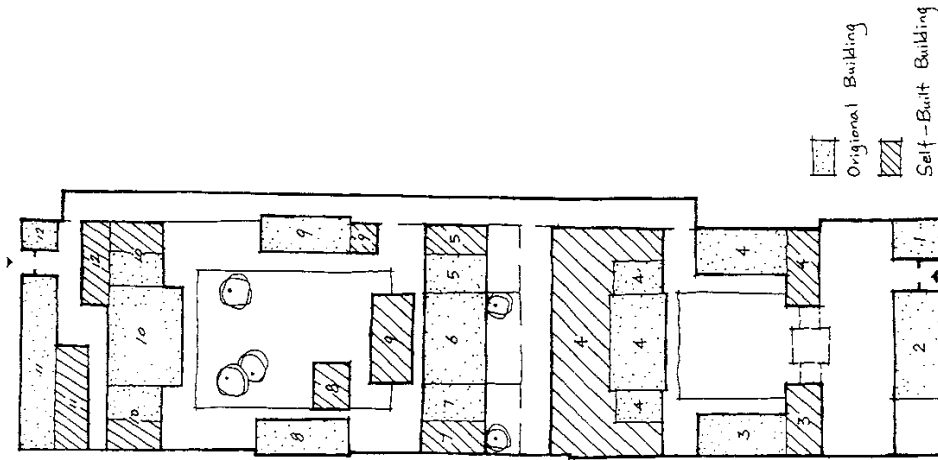


Figure 68b: Present plan of dwelling A.
(By author)

▪ Evaluation of the Courtyard-Hutong Neighbourhood

In terms of the residents' opinion of the courtyard-Hutong neighbourhood, its geographical position, security, and community relationships were highly rated by the residents as the great advantages of the courtyard-Hutong environment. It is worth noting here that when residents were asked what they thought were the advantages of the courtyard housing neighbourhood, 'convenient' was a frequently used word. The residents' explanation indicated that the meaning of this word covered good city location, being close to transportation and facilities, and ease of communication with neighbours. In describing the convenient features of the *Hutong*, respondents also mentioned characteristics about courtyard housing such as the fact that courtyard houses are only one storey high. It could therefore be inferred that the courtyard house and the *Hutong* are thought of as one entity, and sometimes the characteristics of courtyard housing and *Hutong* are hard to distinguish.

The residents were greatly concerned with the dilapidated condition of the neighbourhood, and there being too many outsiders (people who come from other provinces to Beijing looking to make their fortune and leading to problems of security and crowding).¹⁶

▪ Ideal Living Environment

From the residents' point of view, low-storey, sufficient living area, good facilities and infrastructure, were the crucial aspects of an ideal home. In describing the residents' ideal neighbourhood, the important components were suggested as being security, neighbourhood relationships, and access to commercial markets. Eighteen out of the 20 respondents

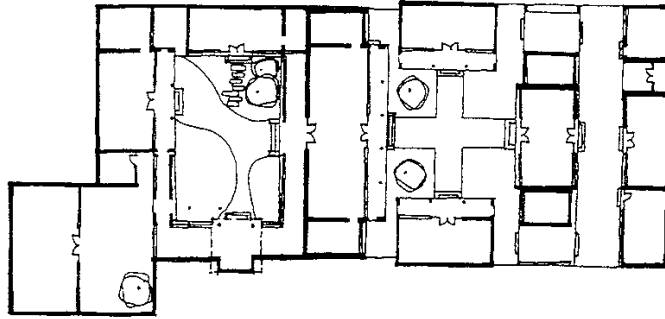


Figure 69a: Original plan of dwelling B.
(After Ma 1999:Fig.2-15)

¹⁶ In recent years, some residents in this neighbourhood moved to other places to live and rented their courtyard house to people working in Beijing. To some extent, this brings temporary residents to the neighbourhood and contributes to the feelings of insecurity described by some respondents.

answered that if the courtyard houses were upgraded so that the families had privacy and modern services, they would prefer to live in a courtyard house over other housing forms.

(2) Residential Behaviour

▪ Behaviour in Courtyard Houses

The way that the residents used their living space was quite similar: they cooked in their self-built kitchen, ate meals in the kitchen or the living room and entertained their friends and neighbours in the living room.

Within the range of the households studied, 13 households included children or elderly residents. The courtyard and the *Hutong* were noted as their domains for play, exercise, and social activities. When the residents were asked how often they spent time in the courtyard, five of them answered "often", 12 residents said "sometimes" and the remainder said "seldom". However, all the residents were using the courtyard as an extension of their home. The space was serving as a storage room for bikes, coal and vegetables; as a balcony for drying clothes, raising birds, planting flowers; and as an outdoor area for doing exercises, getting sunshine, and chatting.

▪ Behaviour in the *Hutong*

The respondents spent less time in the *Hutong* than the courtyard. The increasing number of cars passing through and the intrusion of outsiders could account for the lower preference. However, the respondents emphasised that the *Hutong* is still a major place for the elderly people to play with children, chat with neighbours, play chess with friends, or just sit around. Most of the people indicated they liked to meet neighbours in the *Hutong*. The *Hutong* was therefore serving as a social forum in the neighbourhood.

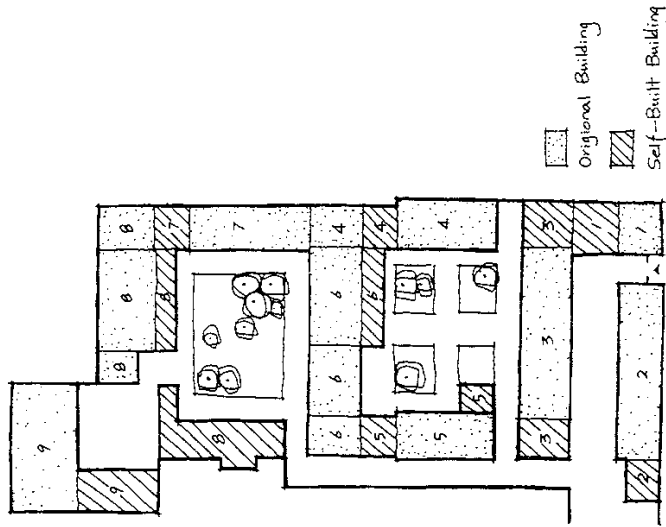


Figure 69b. Present plan of dwelling B.
(By author)

Surprisingly, the residents' response to the peddlers in the *Hutong* was indifferent or negative. This was perhaps partly due to the multitude of changing peddlers and their belonging to the 'outsiders' group. Nearby commercial activity was still regarded by the majority of respondents as an advantage of *Hutong*. A demonstration of this is that a small market evolved spontaneously at the corner of the *Hutong*, and later was organised by the neighbourhood organisation.

- Neighbourhood Relationships

In terms of neighbourhood relationships, all residents considered their neighbourhood as friendly and co-operative. This is indicated by responses to the question "if you had to move from here to some modern apartments, what would you feel". Missing the old neighbours was stated as the reason for reluctance to move.

In answering the question "would you say the people in the neighbourhood are pretty much the same or different from one another in terms of their demographic groups", half the respondents replied that their neighbours are pretty different, while the other half answered that they didn't know. This response implies that the physical environment of courtyard housing neighbourhood may still help people unify social difference.

- Privacy

As expected, a lack of privacy was a frequently identified consequence of living in a courtyard house. All of the residents reported that they needed some time to themselves but it was hard to find a private place in their home. A majority of the residents (18) considered the privacy of the family as important. Eleven respondents felt family privacy was absent in a house shared by several families, while seven thought that family privacy could be obtained

even in the crowded courtyard house.

- Territoriality

It is possible to define approximate boundaries of the households even though, with some exception, there are no barriers erected. The definition of a family domain was shown in residents' drawings of their homes.

In answer to the question "when do you feel you get home", eight respondents answered when they got to the entrance of the *Hufong*, six answered when they entered the courtyard house, another six responded when they were in their own room. The hierarchy of territoriality in their courtyard housing environment was therefore identifiable.

- Density

In terms of perceived living density, the responses were varied. Nine respondents thought their own home was crowded, while the remainder did not. But all agreed that the courtyards were generally crowded (although their own homes were in the range of low density compared to other courtyard houses). To some extent, the physical and non-physical boundaries set up by each family as well as the additions to the house could account for their negative assessment of the density, especially when the residents were comparing their present house to the old one-family courtyard house.

(3) General Questions

- Living Environment

In terms of the living environment of courtyard housing, 18 families said they were fairly happy with their present living conditions, two families were not happy, while the answer "very

happy" was totally absent. However, all the residents indicated they would feel some unhappiness if they had to move to a modern apartment.

Although good position and convenience to transportation in the neighbourhood were considered as advantages, residents' emotional attachment to the old, somewhat dilapidated housing is the most likely explanation for these responses. Many residents talked caringly about their neighbours, the *Hutong*, the grey walls, the discoloured gates, and the courtyard, in one word, the 'place'. There thus appears to be something in this traditional form that is more attractive than the modern facilities in the high-rise or middle-rise apartments.

▪ Identity, Privacy and Security

The respondents, to varying degrees, agreed that some physical aspects of courtyard housing had helped the residents to control privacy, obtain security and maintain a sense of identity. The most important were the hierarchical spaces, the means of access to the house, the walled enclosure, and the *Hutong*.

▪ Modern Apartments and Traditional Housing

Nearly all (19) of the respondents disagreed with the statements that "a modern style of architecture is more attractive for a new home than a traditional style" and that "the life in modern apartments would be much happier than the life here". Some residents identified disadvantages of modern apartments that they had experienced, such as the lack of an outdoor space, inconvenient features for older people and children. While the most important yet least tangible reason noted by the residents was that they felt something would be lost with the shift.

Conclusions Drawn from Interviews

1. Housing Form and People's Life

Of overriding importance for satisfaction with housing is that the physical environment be supportive of residents' behaviour. This leads to the residents' preference for a traditional form, even though some deficiencies with traditional housing do exist.

2. Significant Aspects of Courtyard Housing Environment

Although some of the modern facilities are absent in traditional courtyard housing, the physical environment fulfils various social requirements for the residents. The ensemble of the walls, the gates, the one-story buildings, the courtyard and the *Hutong* is a setting for the residents which provides the family boundary, privacy, security, self-controlled space, compatibility with neighbours, social communication and co-operation — in total a sense of identity as 'home'. In other words, the traditional residential environment has a meaning to the residents in a way which the modern apartment may not replicate.

3. Changed Social Context

Another important factor that could influence the living requirements of the residents is the changing social context. The change of family structure, seeking of personal privacy and the demand for modern facilities and infrastructure are all important considerations in any future housing design.

4. Unchanged Chinese Life

The analysis of the data from the interview leads to the conclusion that while people tend to prefer modern living conditions and services, their level of satisfaction with housing depends on the fulfilment of a set of social-cultural needs which has some continuity with the traditional needs.

4.4 POE Survey — Juer Hutong Reconstruction

In the 1970's, work on integrated conservation strategies for the old city of Beijing encompassed the redevelopment or rehabilitation of small areas of old courtyard houses, and emphasis was placed on the exploration of a housing pattern deriving from the existing courtyard housing pattern (Leaf 1995). Since then, a number of residential reconstructions have been completed in the old city of Beijing. Some of these attempts have suggested ways in which those particular neighbourhoods can be physically improved. At the same time, planning and design projects, including on site experiments have attempted to develop new housing forms to fit into the traditional urban fabric.

Project Background

In 1987, a research group from the School of Architecture, Tsinghua University in Beijing, led by Professor Wu Liangyong, began a practical experiment in a courtyard housing district — Juer Hutong. The project had many objectives: the reconstruction of the decayed area, an improvement in living standards and the preservation of the urban fabric of the historic city (Wu 1994).

Juer Hutong (Fig.70) is located to the north of the old city centre and close to South Luoguxiang, which has been designated as a courtyard house conservation area. The area is mainly residential and, like many inner city areas, suffers from a poor physical environment with substandard housing conditions stemming from a chronic overuse and lack of maintenance.

For the first phase of the experiment, seven compounds of courtyard houses were

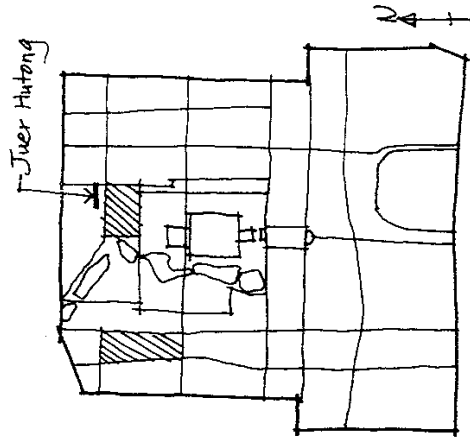


Figure 70: Location of Juer Hutong.
(By author)

chosen to conduct the reconstruction. The plot size was 2090 square meters and 139 residents from 44 households resided in the area. The plot was in the nine meters limit area of the city, so three storeys was the maximum allowable height for new housing. The reconstruction aimed to reaccommodate all of the original residents on site, therefore a high FAR (Floor Area Ratio) was sought via various design strategies (Fig.71).

Major design considerations of the new courtyard prototype included organising a number of units together to form a courtyard compound, adopting several-depth courtyards with a service path, and grouping rooms appropriately along horizontal and vertical circulation lines. In so doing, the project tried not only to provide privacy and sufficient space for living, but also to achieve a rather high building density within the limitation of the two or three storey structure. This project tried to demonstrate that the housing form ought to fit the traditional architectural context while satisfying modern functions and technological requirements (Fig.72).

Post Occupancy Evaluation Survey

The first phase of the development was implemented in 1990 (Table-12). In order to evaluate the project as a way of courtyard housing neighbourhood reconstruction, a survey (Wu 1994) was conducted of the 91 residents from 31 households who had been living in the 'new courtyard houses' for a year. The survey indicated a general level of satisfaction with some aspects of the traditional courtyard housing environment which had been continued in the modern housing form.

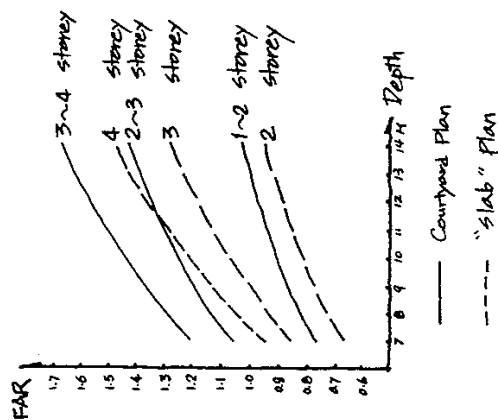


Figure 71: FAR comparison.
(After Wu 1994: Fig. 6-10)

Table-12 Indexes of the First Phase Experiment of Juer Hutong Reconstruction

Item	Pre-Reconstruction	After Reconstruction
Total Land Area (sq.m)	2050	2050
Total Floor Area (sq.m)	1085	2760
FAR	0.53	1.35
Ground Floor Area (sq.m)	1085	1079.3
Building Density	53%	53%
Average Storage	1	2.56
Demolishing : Building		1 : 2.54
Housing:		
Number of Households	41	46
Population	138	133
Population/Household	3.14	2.89
Population/Hectare	673	649
Floor Area/Person	7.86	20.75
Floor Area/Household	24.66	60

From Wu 1994: Table-4.

- Privacy

Compared to the traditional courtyard housing, residents of the reconstructed housing reported an improvement in individual privacy. Most of the residents (68%) reported that their homes were sufficiently quiet and only 9% of respondents reported that it was sometimes noticeable noisy in the courtyard.

- Territoriality

In answer to the question of when the residents felt that they "arrived home", 30% of the residents answered "when they entered the *Hutong*", 45% of them replied "when they walked into the courtyard". Therefore it can be ascertained that the new courtyard housing has partly

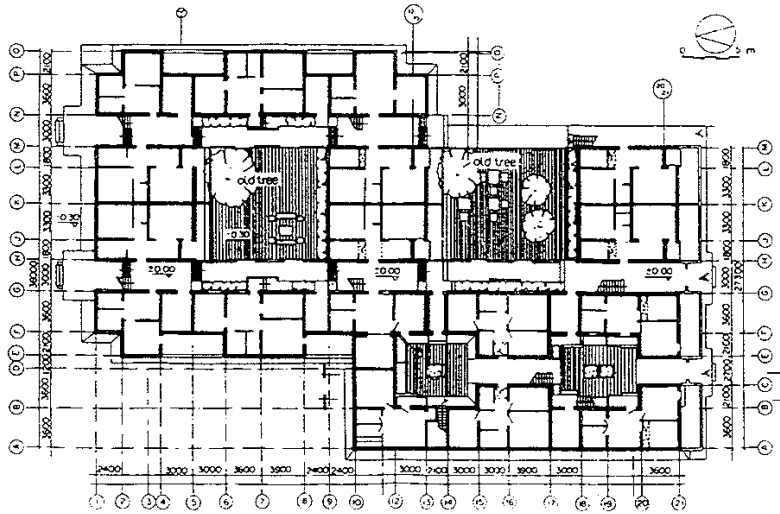


Figure 72a: Plan of Juer Hutong project.
(From Wu 1994: Fig.6-14)

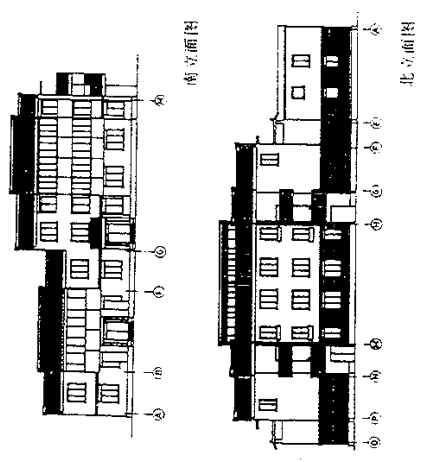


Figure 72b: Elevations of Juer Hutong project.
(From Wu 1994: Fig.6-14)

succeeded in demarcating a territory, which is an important characteristic of the traditional courtyard housing.

▪ Density and Crowding

In terms of crowding, 81% of the residents who were living in the new courtyard house thought the living density in the house was satisfactory. Only 16% of residents reported that it was crowded in the courtyard on some weekends and holidays because of a greater number of visitors and children.

▪ Security

Eighty nine per cent of residents agreed that the physical arrangement of the new courtyard housing had guaranteed residential security; and 67% of the respondents considered it unnecessary to install a security door at their household's entrance. Regarding the entire courtyard building, eighty percent of residents considered that locking the entrance of the compound at night might improve residential security. It is apparent that the residents conceived of the entire courtyard building as a unity even in the reconstructed version of the courtyard houses.

▪ Neighbourhood Relationship

The respondents' concept of the neighbourhood varied. Forty six per cent of the residents thought the new courtyard house as their neighbourhood, while 35% of the residents had extended the scope of the neighbourhood to the Juer Hutong, or even further. In the new courtyard house, 46% of the residents could recognise most of their neighbours and 29% of the residents could recognise some of their neighbours. Generally speaking, each resident

was familiar with at least two or three neighbouring households. The residents got to know their neighbours via the following patterns: meeting in the courtyard; helping each other in domestic matters; neighbourhood activities; and having children or elderly people in their families. The data from the survey has indicated that similar neighbourhood relationships as those formed within the old courtyard housing neighbourhood are developing in the new environment.

The reconstruction project reported here was dealing with programmatic issues such as planning registration, residents' re-accommodation, financial management, and community management as they arose. There are still many issues that such experimental designs would need to further investigate, as there remains no systematic understanding of those aspects of the courtyard housing environment which might be employed in new housing design.

Although the primary objective of the Juer *Hutong* project was not to replicate the cultural significance of courtyard housing, the result of the POE demonstrate that designs can incorporate elements which meaningfully recreate some important aspects of the traditional environment. This possibility will be further discussed in the following chapter.

4.5 Conclusion

Through the analysis of surveys and interviews of residents in Beijing — including those of the author's — together with the results of previous studies, this chapter has demonstrated that certain aspects of traditional courtyard housing are associated with user's satisfaction and dissatisfaction. It has been inferred from the response to the author's survey that courtyard housing provided a unique environment for the residents' life and that there is some continuity of the traditional life style although the social conditions have changed.

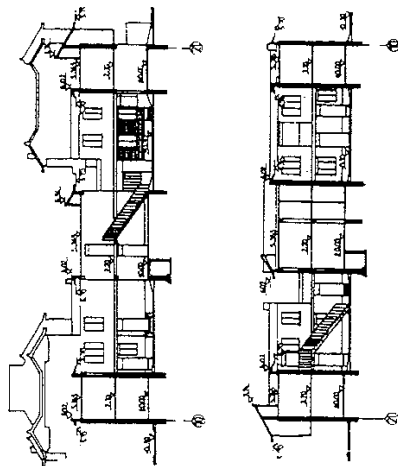


Figure 72c. Sections of Juer *Hutong* project.
(From Wu 1994: Fig.6-14)

Of central concern to this research is the changed and unchanged aspects of the residents' life, and the feasibility of the hypothesis that the physical environment which fulfilled residential and social requirements in the past, can still contribute to contemporary life. Based on the data from the interviews, a positive answer might be obtained. The result of the survey and the interviews has also shown that to some degree some physical aspects of courtyard housing form facilitate cultural desirable residential behaviours. It therefore appears important to maintain significant aspects of traditional housing in new housing design in order to obtain the continuity of a valued way of life.

The survey responses to the Juer Hutong reconstruction project show how an alternative arrangement of courtyard housing might succeed. The post occupancy survey of residents demonstrated that these modern houses, by assimilating some aspects from the old courtyard housing, to some extent achieved some of the social and environmental functions which were fulfilled by the traditional courtyard housing. The project demonstrated that successful design can be incorporated into modern housing without abandoning aspects of the tradition of courtyard housing living. Therefore, the development of courtyard housing within a modern context is not only important but also feasible.

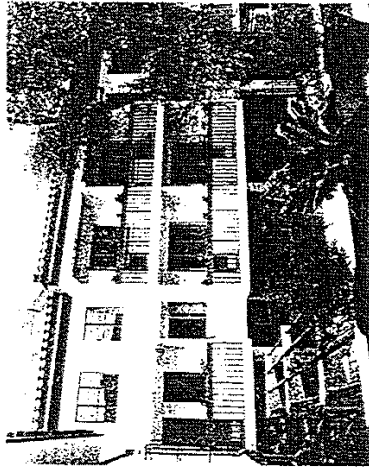


Figure 73: Photo of Juer Hutong project.
(By author, Juer Hutong,
September 1999)

CHAPTER FIVE: MEDITATION & ENLIGHTENMENT

----- Approaches to Traditional Courtyard Housing in Modernity

5.1 Introduction

This chapter analyses theories about the relation between tradition and modern patterns of built environments. It argues that certain fundamentals from tradition can and should be transmitted to modern built environments. Using these theories, together with the analysis provided in the previous chapters, this chapter attempts to lay out these fundamental elements of the environment of courtyard housing.

The first section of this chapter discusses theories and practices from Western countries which bear relevance to the role that tradition might continue to play in modernity. The relationship between tradition and modernity is examined and related specifically to the context of the built environment as a meaningful place for human dwelling. The first section of the chapter concludes that there are certain 'fundamentals' which ground the success of traditional architecture. On the basis of the first section, the second section of this chapter examines what these fundamental elements of the physical characteristics of traditional courtyard housing environment might be in the context of contemporary Chinese society. The behavioural issues of privacy, territoriality, crowding, societal security and solidarity are discussed in detail.

5.2 Theories and Practices

In the past few decades, there has been an upsurge of interest among architectural theorists in the link between tradition and modernity in relation to the way that humans confer meaning upon their built environment. The outcome of this research is a series of related theories rather than any single idea.

Tradition and Modernity

Tradition and modernity are generally considered to be radical opposites. Modernity is seen as a rejection of the past. By contrast, tradition is seen as a continuity of the past. It is generally thought that the word 'tradition' has a conservative connotation. Modernity on the other hand has been suggested by authors such as Harvey (1990) to be the 'transient' in which it is difficult to preserve any sense of continuity. However, Queysanne (1989) argues that tradition is better conceived of as a double process of preserving and transmitting. In order to preserve, it is necessary to pass on. Therefore, rather than two exclusive conditions, tradition and modernity should be considered two extremes of a process of preserving and transmitting.

In this view, at the traditional extreme, people obey strict rules of behaviour, there is a high degree of congruence of personal and social behaviour, and a corresponding congruence between social structure and environmental-spatial structure. Knowledge of life is conveyed between generations through direct communication. At the modern extreme, technological advances in communication make possible a more varied and rapidly changing set of associations which are free of spatial and temporal constraints. The resulting behaviour

is characterised by an open sociability. At this extreme, knowledge of life is conveyed through less direct relations between people as well as through a broad range of technological means that have a global reach.

However, there is room for a particular culture to lie somewhere between these extremes. In this view, rather than taking a permanent form, tradition is constantly reinterpreted to suit contemporary needs. What distinguishes tradition from modernity in each instance is the extent and means by which past knowledge is transmitted in the course of keeping a community intact. It is therefore important to consider how and to what extent tradition can be complementary to modernity (Queysanne 1989).

Place in Tradition

Numerous theoretical approaches have been taken to the subject of how the built environment conveys meaning and identity. Kevin Lynch (1960) explores the character of cities via mental image. Amos Rapoport (1969) focuses upon the relation between housing form and residential identity. For Norberg-Schulz (1980), the relation of a human being to place is more than simply a matter of being able to orientate oneself to one's surroundings. It has to do with a much deeper process of identification. Human identification with a place thus presupposes that places have characteristics which distinguish one from another. According to Norberg-Schulz (1980), the character of a place is determined by a *genius loci* or 'spirit of place', which gives life to place and its people, and is the determinant of that place. Place loses its identity and orientation if design intentions have not been concretised in a way which respect the *genius loci*. *Genius loci* is therefore basic to a dwelling environment (Fig.74).

It has also been argued that the meaning of any object consists in its relationships to



Figure 74: Place with Genius Loci.
(From Norberg-Schulz 1980: Fig.13)

other objects. That is, what constitutes the 'spirit of place' is a bond between person and place. For human beings, a deep relationship with place is necessary for dwelling. Without such a relationship human existence is bereft of much of its significance (Relph 1976).

A house is a place with the meaning of home. Home, as the fundamental built environment, is central to human well being in every part of the world. Homes are anchors of human life and function as part of economic, political and social systems. Despres (1991) identifies ten categories of meaning of home ranging from material characteristics of dwelling and neighbourhood; cultural and symbolic meanings associated with self-expression, emotional security and social status; to social meanings connoting relationships and activities. As a place that carries these meanings, a place with a *genius loci*, a house therefore embodies meanings which include self-expression, identity, orientation, affection, belonging, and attachment, to name a few. However, as spaces, not all houses are automatically endowed with these characteristics. The lack of spirit of the place could lead to a very alien habitat, being lost, disoriented, or socially estranged. Belonging, orientation and identity would also be missing. Therefore the architecture of the dwelling environment requires the visualisation and conservation of the *genius loci*, and the task of the architect is to create meaningful places where humans can dwell (Norberg-Schulz 1980).

In terms of traditional housing, the *genius loci* has been formed by its spatial configuration and articulation in the course of its evolution. As part of the development of societies, social and cultural changes occur. As these changes become manifest through their physical implications, a new housing form takes the place of an older one. However, the development of identity is a slow process, which cannot take place in a rapidly changing environment. Thus rapid changes in modern living environments have perhaps led to an alienation in human life. If we accept Norberg-Schulz's hypothesis, then this alienation might

be said, to a large extent, to be due to the absence of *genius loci* in newer housing forms.

How can the *genius loci* be preserved under the pressure of new technological demands?

The answer is perhaps that what should be preserved is the "primary structural properties", since they are capable of various interpretations and do not hamper stylistic changes and individual creativity. Norberg-Schulz explains that:

"To respect the *Genius Loci* does not mean to copy old models. It means to determine the identity of the place and to interpret it in ever new ways. Only then we may talk about a living condition which makes change meaningful by relating it to a set of locally founded parameters" (1980:182).

What then is the identity of the place that it can be interpreted in new ways? Lynch (1960) states that a vivid physical setting for a city is capable of producing an imageability, which is facilitated by paths, edges, districts, nodes, and landmarks. Similar methods of analysis could be used for housing. Generally, the *genius loci* of place is facilitated by some aspects of the environment, which are the objects of human identity and orientation (Norberg-Schulz 1980). These aspects could be recognised and organised into a coherent part of a new model for housing if they were properly understood. In so doing, the *genius loci* of the traditional residential environment could be retained in modern context.

Placelessness in Modernity

Rolph (1976) uses the term 'placelessness' to describe the contemporary environment. He states that the localism and variety of the places which characterised traditional cultures are diminishing in modern society. This is due to the prevailing inauthentic attitude to place which perhaps stems from an uncritical acceptance of mass values; or from modern

technologies aimed at achieving more efficiency. The inauthentic attitude towards place is transmitted through a number of processes which encourage placelessness. According to Relph, modern mass communications, mass culture, big business, central authority and the economic system all encourage placelessness (Fig.75). In the field of architecture and urban planning, most places have been subjected to profound changes, *genius loci* has been lost and the meanings of places have become as ephemeral as their physical forms. Placelessness is everywhere (Relph 1976).

The loss of attachment to places constitutes a real deprivation. Relph (1976) argues that, because a deep human need exists for associations with significant places, the redevelopment of such attachments is essential if a meaningful environment is to be created. However, creating a place that gives identity and orientation to human being is not a simple task. The possibilities of maintaining the sense of place lie in the transcendence of placelessness rather than the preservation of older places. What is needed is an approach that takes its inspiration from the existential significance of place and is responsive to the local structures of meaning and experiences.

Tradition in Modernity

In the past decades, efforts have been made by architects to find approaches which allow tradition to exist within the parameters of modernity. However, there is a paradox. On the one hand, tradition has to root itself in the past. On the other hand, in order to take part in modernity, tradition needs to fit into the economical, political, and social changes which very often require the abandonment of tradition. This leaves the question: how to return to the place making of tradition while remaining modern? A number of contemporary theories –

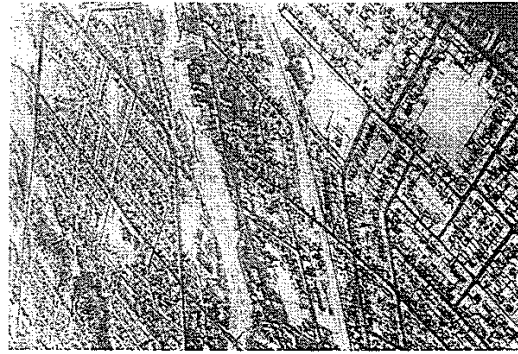


Figure 75: Placelessness in the modern city.
(From Relph 1976: Fig.6.15)

Regionalism and Critical Regionalism, and New Urbanism — help address this question.

▪ *Regionalism and Critical Regionalism*

Many of the architectural works that have attempted to situate tradition in modernity have a common basis: a commitment to place, hence the retention of the identity and orientation of human life. One reflection of this commitment is the theory of Regionalism. With the spread of Modernism, the question of identity has become a great concern for architectural thinkers. Regionalists such as Hassan Fathy, Charles Correa, and Raj Rewal, are concerned that the identity of place is being lost in the confrontation with the overwhelming spread of internationalism. Regionalists recognise the value of vernacular modes of building which respect the local culture, climate and technology. They advocate use of regional design elements as a means of confronting the modern homogeneity of architecture (Fig.76). In order to retain the identity of the place, Regionalism selects local architectural elements linked in memory with tradition and insert them into new buildings, constructing settings to arouse affinity and familiarity (*Regionalism in Architecture*, 1985). This 'familiarisation' could be thought of as respecting the spirit of the place.

More recently Critical Regionalists have realised that no living tradition remains available to modernity other than the subtle procedures of synthetic contradiction. They critically evaluate the local culture, employ modernist strategies, and partly attach to, and partly reject regional elements. Critical Regionalism draws its forms from the context. These forms are regional elements, which are historically linked with the formation of concrete urban *genius loci*. These are selected, defamiliarised, and composed into new projects (Tzonis and Lefaivre 1990) (Fig.77).

Regionalists and Critical Regionalists have a common concern for place and the use of

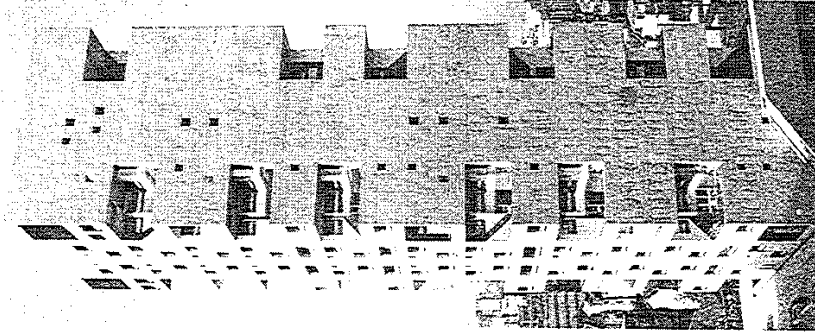


Figure 76: Regionalist design.

Charles Correa,
Kanchanjunga Apartments, Bombay.
(From *Regionalism in Architecture*
1985: p. 14)

regional design elements to respond to the *genius loci* of a place. Regionalists believe that tradition can be developed through challenging its own shortcomings. Therefore, it is possible that the cultural characteristics of the regional tradition could be retained in modern design (Frampton 1983). Although there are definite limits to Regionalism and there have been polemical reactions to it,¹⁷ the method used by Regionalists to approach a sense of place, to some extent, can help develop a vocabulary for a contemporary architecture which has its roots in the tradition of a particular culture.

• New Urbanism

Another theoretical stream that reinterprets tradition into modernity is the New Urbanism movement. Perceiving many of the ills of our current sprawling pattern of suburban development, New Urbanists attempt to return to compact, close-knit communities. New Urbanism advocates a regional system of open space and transit, which can help revitalise an urban centre and order suburban growth. The New Urbanists try to create a truly urban metropolitan form — oriented to public rather than private space, offering diversity, a hierarchy and pedestrian scale. In New Urbanism, there is a rediscovery of planning and architectural traditions that have shaped some of the most liveable, memorable communities. Thus the design principles of traditional communities have provided both inspiration and lessons for contemporary New Urbanist designs (Fig.78). Applying these principles in the modern suburb, while coping with its economical and social imperatives, has been an important contribution of

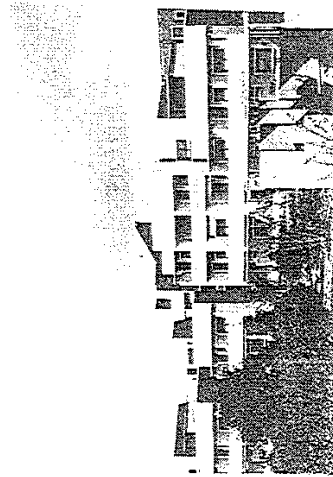


Figure 77: Critical Regionalist design.
Dimitris and Suzana Antonakakis,
Hotel Lyftos, Anissaras, Crete.
(From Frampton 1985 :p.98)

¹⁷ It has been argued that true Regionalism is often limited by the industrialisation of structure and deferred by the influence of the architectural press, the worship of fashion, and people's desire to conform and belong (*Regionalism in Architecture* 1985).

New Urbanism (Katz 1994).

The most detailed level of planning which is found in the New Urbanists' work, is the architectural design guideline. By establishing design rules, an extraordinary level of control is exerted and the relationship between design traditions and modern architecture has been established. The principles of New Urbanism have been applied to a variety of situations — both new developments and infill — and show how the traditional approaches to building communities can be applied in contemporary projects.

It may well be true that the most characteristic situation with which new Urbanism deals is suburban development and infill, and the rationale of the efforts are to assert the importance of public over private values in community planning and design. Towns generated by New Urbanist principles have been dismissed by some critics as being too cute to be real towns (Katz 1994:3). It cannot, however, be denied that the works of the New Urbanism show how traditional approaches might be applied anew in contemporary places which might be thought as totally different from traditional ones.

No matter how different the approaches to integrate traditional aspects into modern architecture proposed by these theoretical positions, they all pay great attention to place and identity, which become the mechanisms to obtain 'placeness'.

The preceding approaches, Regionalism, Critical Regionalism, and New Urbanism, seek to reverse a trend toward alienation that designers have observed in many contemporary environments. Consistent with this approach, architects first articulate the principles defining the 'placeness' of traditional environment. By using innovative coding strategies (Regionalists use the regional elements, while the New Urbanists use traditional principles), traditional aspects are then allowed to gradually integrate into modern design, bringing greater definition

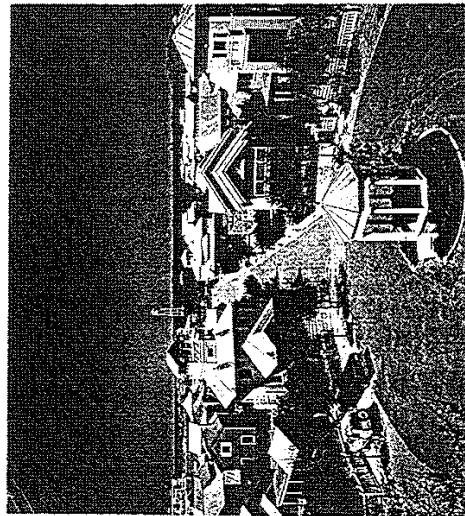


Figure 78: New Urbanist design.
Andres Duany and
Elizabeth Plater-Zyberk,
Seaside, Florida.
(From Katz 1994: p.3)

of place.

5.3 The Essentials of the Courtyard Housing Environment

As the unique housing form of a particular culture, traditional courtyard housing provided a setting for dwelling. Drawing on the analysis of the preceding section, the 'essentials' of this traditional housing form which have been supportive of the Chinese way of life, might best be obtained through analysing the way in which the physical form of the courtyard house deals with issues of privacy, territory, crowding, societal security and solidarity.

Privacy

Irwin Altman (1975) defines privacy as selective control of access. Living in an urban area, people try to control their openness and closedness to others. This is a dynamic and dialectic process with constant change. Naturally, all human cultures have mechanisms for managing the accessibility of people to one another, both spatially and socially. People can use behavioural mechanisms, objects and areas in the environment, as well as customs, rules and norms. Among the mechanisms available to regulate privacy, the built environment of people's housing is an important and effective part (Altman 1980). As the urban environment becomes increasingly crowded, the need for privacy becomes one of the most significant factors in the use of housing space.

Traditionally, the spatial layout of the courtyard compound and the *Hutong* neighbourhood in Beijing helped to achieve a sense of privacy. In essence, the courtyard housing environment set up the foundation for the social management of accessibility in a

Beijinger's life. The regulation of privacy included control of disturbance that was created by sound, smell, sight, touch and communication. In the courtyard housing environment, this control was achieved by 'spatial gradient', 'regulation of distance' and the walls.

It is important here to restate that the Chinese concept of privacy was based on the unit of the family. Little consideration was given to individual privacy. The dwelling was symbolic of family unity. This can be seen in the layout of a courtyard house where the only private places for the individuals were the bedrooms, each of which have spacious panel windows opening onto the courtyard. The spaces in a courtyard house were thus defined more broadly in terms of familial rather than personal needs and uses.

• *Spatial Gradient*

In a courtyard house, privacy was regulated firstly by the layering of space and a formal axiality corresponding with various family functions. Graduated zones (Fig.79) were demarcated in a traditional courtyard house as follows: the rear building was the most private; the main building and the inner court less so; the outer court more public still; the *Hutong* most public of all. A stranger or peddler was allowed to stay at the entrance hall only; guests could be invited into the reception rooms in the outer quarter; but only relatives and the most intimate friends were allowed to enter the inner quarters of the home. Thus, at several levels of scale and in a variety of settings, one sees the systematic arrangement of stratified domains.

In multi-courtyard houses the sequential entry points of each courtyard marked a penetration into a more secluded and intimate domain of the house. In this sense, the gates were boundaries between layers of privacy, rather than points of passage from one space to the next. When there was a gradient of this kind, people could choose different spaces for

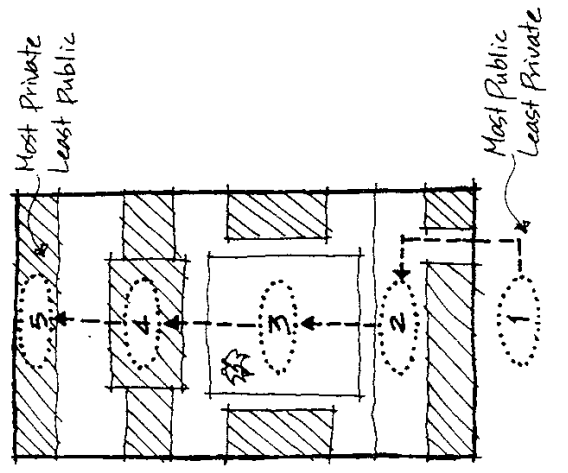


Figure 79: Graduated zones of privacy in courtyard housing. (By author)

different encounters: with neighbours, friends, or families for example. In this way, the family maintained privacy, and hence its distance from the public. In modern apartments, however, this gradient is simplified to a minimum and the regulation of privacy is severely weakened.

▪ *Regulation of Distance*

Secondly, privacy was achieved by controlling distance in courtyard housing. Hall (1966) states that there are four zones of distance in human dwellings: intimate, personal, social and public. In terms of housing design, social distance and public distance are more involved when the privacy of individuals and family are taken into account. In a courtyard house, the longitudinal axis of the house, to some extent, fulfilled the task of privacy regulation (Fig.80). Normally, the disturbance created by voice, smell, and movement decreases when the distance increases. The distance between the entrance and the main building of a courtyard house was so great that people could obtain privacy even in the courtyard. The existence of the outer court, a transition between public and private space, also increased this distance.

▪ *Walls as Barriers*

Thirdly, the walls in the courtyard housing environment played a significant role in privacy manipulation. It has been widely discussed that the regulation of privacy is immediately related to culture. In China, walls are used everywhere. Sturdy, high, seemingly impenetrable, the walls prevent the eye from discovering what lies beyond. In a courtyard housing neighbourhood, there was little indication of the life and beauty that was hidden behind the plain grey brick or plastered reddish walls. The perimeter enclosing wall was the most important, but not the only barrier set up to obtain privacy. Inside a courtyard house, a screen wall, *Ying Bi*, was meant to prevent viewing from outside and to cover up the disorder

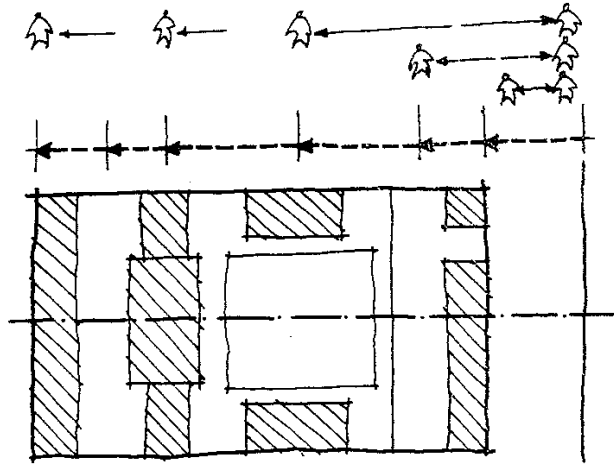


Figure 80: Distance as privacy regulation in courtyard housing. (By author)

inside. The existence of the screen wall made it possible for the residents to approach the entrance without being seen by the people in the street. The division between the inner court and outer court, the 'hanging flower gate', also served as a barrier between insiders and outsiders (Fig.81).

In addition, in terms of a family home, privacy is not simply a matter of who can see how much of the inside of the house. Privacy is also influenced by how much of the world can be viewed from within the home (Abramson 1997). The walls of the courtyard house served to prevent people seeing into private spaces, while the gate and the *Ying Bi* facilitated surveillance of outer spaces. The *Ying Bi* in its more elaborate form actually had a two-way function. Located at the outer quarter of the house opposite to the gate, it blocked the view from outside. Located outside and at an angle to the gate or across the *Hutong* from the gate, it also blocked the view from within the courtyard while approaching the gate. Importantly, besides blocking the view, the *Ying Bi* also created a symbol of controlled view.

Again, all these barriers which functioned to regulate privacy, have disappeared in modern apartments. The residents' privacy is threatened by the loss of control, especially at the entrances of the unit and the first storey windows which abruptly face public spaces.

Territoriality

The concept of territoriality is complex. Altman (1980) defines territoriality as control and ownership of a personalised place by a person or a family, serving physical as well as social functions. Territory is not only a defensible space but, more importantly, it is meaningful to the users. Altman defines territory in three categories: primary, secondary and public. In this division, residential space belongs to primary territory and plays a crucial role in people's lives.

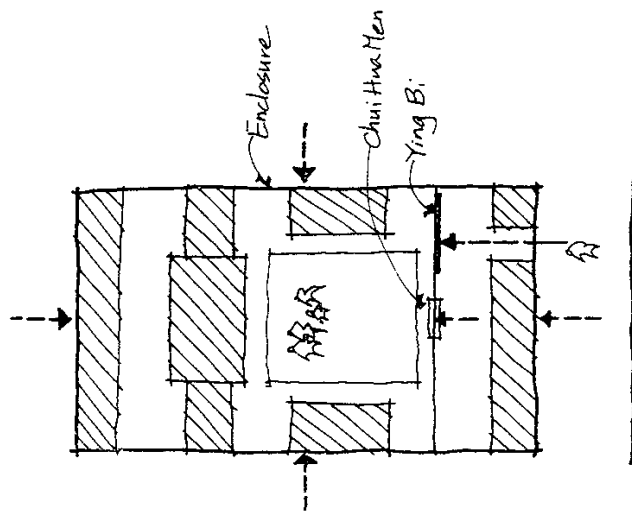


Figure 81: Barriers as privacy control in courtyard housing.
(By author)

Therefore, territoriality in dwelling environments could be considered an essential prerequisite for people to obtain direction (Lynch 1960), identification (Norberg-Schulz 1980), and orientation. In the courtyard housing environment, territoriality was regulated by spatial hierarchy, territorial integrity, connecting nodes, boundaries and self-controlled space.

- *Spatial Hierarchy*

The realisation of territoriality in the courtyard housing environment was greatly influenced by the spatial arrangement. The most significant was spatial hierarchy. Newman (1972) states that space in a human habitat can be made to operate in an evolving hierarchy, extending from home to street. A sequence of spaces may be formed by public space, semipublic space, semiprivate space, and private space. The territorial definition of space is reflected in the way people make use of the areas, and works by subdividing the residential environment into zones toward which residents easily adopt proprietary attitudes. Corresponding with Newman's territorial definition, a sequence of spaces was found in a traditional courtyard housing neighbourhood: the street, the *Hutong*, the outer courtyard, and the residents' house (Fig.82).

In modern housing environments, such as in modern middle-rise neighbourhoods where private space abruptly faces public space, the territoriality is absent because of the lack of transition spaces between public and private domains. In other cases, such as some public spaces in modern high-rise neighbourhoods, the territoriality is weakened by the excessive scale of the transition space.

- *Territorial Integrity*

Although at several scales one sees the systematic arrangement of territory, the integrity

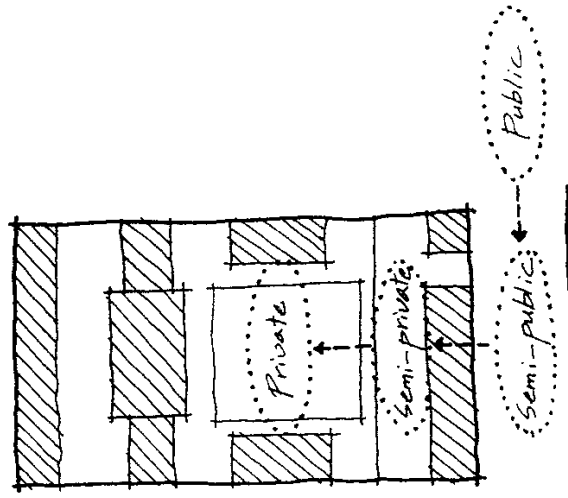


Figure 82: Spatial hierarchy in courtyard housing.
(By author)

of a territory is most important. Only in territory with integrity can territoriality be obtained. The integrity of a territory is decided by the enclosure of the space. Hence the more centripetal the space, the more the integrity of the territory. Erecting walls on four sides can form an enclosed sense of a space, whereas walls on two sides could also convey an enclosed sense if the boundaries are long enough to confine the domain. Being a typical walled enclosure, a courtyard house had the best territorial integrity. As the transition between public and private spaces, the *Hutong* was usually hundreds meters long with walls on both sides which were only interrupted by the entrances of the houses. Thus while it was only enclosed on two sides, its space was also defined (Fig.83).

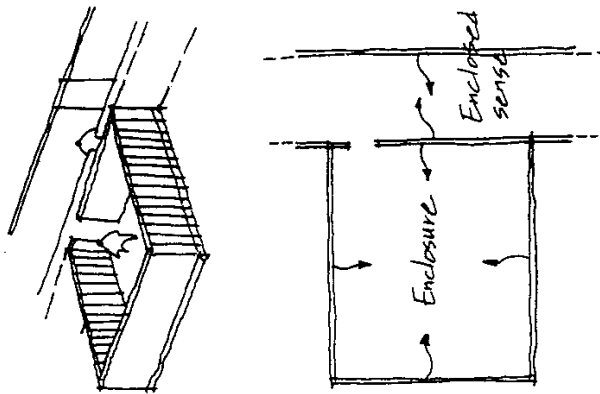


Figure 83: Territorial integrity
in courtyard housing.
(By author)

- **Connecting Nodes**

Connection between territories occurs at the nodes existing at the edges of adjacent territories. In a courtyard housing neighbourhood, the main entrance of the house served as a symbol. It was the transition node between the semi-public space, the *Hutong*, and the semiprivate space, the court. It represented the end of the *Hutong* and the start of the home environment when one walked from outside to inside, and vice versa. The entrance of the *Hutong* was similarly a connecting node. Usually there was a grocery shop at the corner of the *Hutong*, which announced the transition between the *Hutong* space, the semi-public space, and the street, the public space. The common characteristic of these nodes (Fig.84) in traditional areas was that they usually had special architectural forms, such as the decorated gate. With such features, the identity of the territory was also obtained.

In modern apartment neighbourhoods, however, the gates are substituted by the monotonous entrances of each unit which are dispersed within the neighbourhood. The dispersion of the nodes prevents people from congregating at a single point, hence the

function of the nodes as activity and security points disappears, as does its function of providing identity.

▪ *Walls as Boundaries*

Physical boundaries can be used as architectural mechanisms to define the residential territories and hence regulate territoriality. Residential boundary definition appears in a variety of forms: walls, fences, hedges, and trenches. Rapoport (1969) states that the concepts of boundary in different cultures are totally different; where for example the Japanese use fences, the Chinese used walled enclosures.

Ashihara (1981) notes that there are different implications of the wall height related to the height of the human eye, allowing different senses of enclosure to be obtained. A one foot high (30cm) wall can serve as a divider between areas and has almost no enclosing force. A two foot high (60cm) wall provides a sense of visual continuity and has almost no enclosing force. A three foot high (90cm) wall has some enclosing force but does not change the situation radically. A four foot high (120cm) wall generates a sense of personal security and still provides a sense of visual continuity. A five foot high (150cm) wall begins to become a real enclosing force, and a strong enclosing force is acquired when a wall exceeds six feet (180cm). In Ashihara's definition of walls, those below four feet can be thought of as symbolic boundaries while those greater than four feet can be seen as existential boundaries. Ashihara (1981) therefore argues that a feeling of enclosure is obtained when a wall exceeds adult eye height and breaks the visual continuity of the floor. The application of the kind of boundary and the height is decided by the requirements of not only the territorial demarcation but also privacy and security.

In Chinese culture, family domain, privacy and security are highly emphasised, thus a

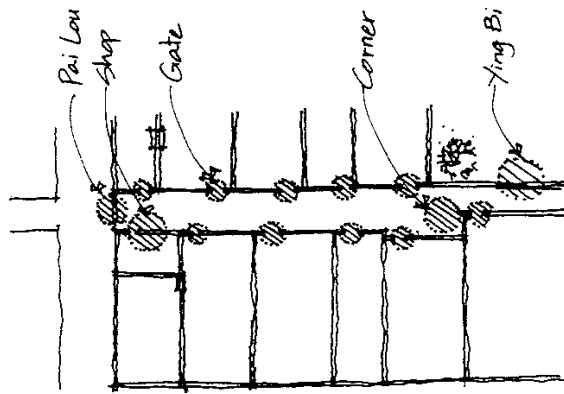


Figure 84: Connecting nodes in courtyard housing. (By author)



wall exceeding an adult's height was taken as the main mechanism for defining the boundary of the family (Fig. 85). In a traditional courtyard house the walls around the rooms served as the demarcation between the public and private domain. A sub-demarcation between private and semiprivate spaces was also set up inside the house by the existence of the wall dividing inner and outer courts. The screen wall (*Yin Bi*), normally the same height as the enclosing walls, served as the barrier preventing visual continuity. In this way, the owners of the house could define, control and personalise their place and obtain direction, orientation and identity.

• *Self-Controlled Space*

Within a house, space is also provided for personal activities and for the family members to share life experiences. People need a place to sit, to talk, to exercise, in other words, to conduct personal activities outdoors but in a private or semiprivate domain. People also need a place for growing flowers, feeding birds and other hobbies to fulfil self-expression and identity. Therefore, a high degree of self-controlled space is required. In traditional courtyard housing, the courtyard which was enclosed by the buildings round it, provided such a self-controlled, secure, private outdoor space for the owner's activities and family interaction (Fig 86). Even in present courtyard houses that are shared by several families, the fences, trees, and walls set up by the residents as the boundaries of their self-controlled spaces are a manifestation of this requirement. The lack of this self-controlled space in modern apartments could partly account for the residents' feeling that there is an absence of residential identity (Abramson 1997).

Figure 85: The significance of boundary heights.
(By author)

Crowding

Another significant aspect associated with living in a traditional courtyard house was crowding. It is important, first of all, to distinguish crowding from density. According to Altman (1975), density is the physical concept of the number of people per unit of space. Crowding, on the other hand, is a psychological concept; it exists when achieved privacy is less than desired. Density is thus an objective concept measured numerically, while the concept of crowding mainly depends on the perception of the residents.

There is widespread evidence to show that overcrowding causes psychological and social damage. However, traditional Chinese ideology encouraged families to "maintain five generations under one roof", and large numbers of persons per household were desired (Anderson 1979:144). A common word of blessing to elder Chinese was 'may the banquet hall be full of descendants'. In the traditional one-family courtyard houses where the level of individual privacy was much less than desired because great attention was paid to the privacy of the family as a unit instead of the individuals, the residents' perception of crowding was not as serious as expected.

The crowding experienced by so many Chinese urban dwellers today, especially those in the multi-family courtyard houses, may be thought of as a result of the inflated population. But it is argued that the tendency toward crowding, deeply rooted in Chinese culture, may not disappear even after the present condition has been relieved (Abramson 1997). According to Anderson's observation of the Chinese way of dealing with crowding, the response to having a larger house has not been to give more space to each individual but rather to bring more individuals in to the space (Anderson 1972). Other surveys done by foreign scholars have also found that the Chinese stress the values of several generations living in close proximity in the

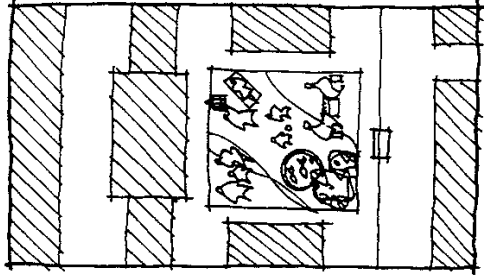


Figure 86: Self-controlled space
in courtyard housing.
(By author)

same building (Ekblad 1991).

One of the most critical factors affecting the perception of crowding, as well as of density, is culture. Culture also influences the strategies for coping with crowding (Altman 1975). Some studies (Anderson 1972, Ekblad 1991) have shown that Chinese people have particular strategies for coping with crowding and that the spatial characteristics of housing contribute to these strategies. In a traditional courtyard house the space was allocated so that different rooms served very different functions (Fig.87). The bedrooms were only for the family members, outsiders were not even supposed to look into them. The central part of the main building was open to the guests where they could sit, chat, and sometimes hold ceremonies. The courtyard virtually served as an outdoor living room for the family as well as the guests. In good weather the family spent all their waking hours in the courtyard as bedrooms were used only for sleeping and dressing. Therefore the spatial structure of the courtyard house, together with relaxed and flexible management of time, respect for elders in the family, and the cultural acceptance of close physical proximity between individuals, helped Chinese people deal with crowding.

The shared courtyard housing which has sprung up in recent years as the result of the inflated population could also be thought as a derivative of this cultural tendency. The housing conditions of Beijing in recent decades has forced several families to share a traditional courtyard house that is more suitable for one extended family. The habit of extending private space by building temporary constructions has been the direct result of today's crowded living conditions because every family wants to expand their family space. However, the residents in the multi-family courtyard houses are not stigmatised in each other's eyes by virtue of their living conditions. One could argue that the *Hutong*-courtyard environment helps people to cope with crowding, and provides a particular physical form for the possibility of this cultural

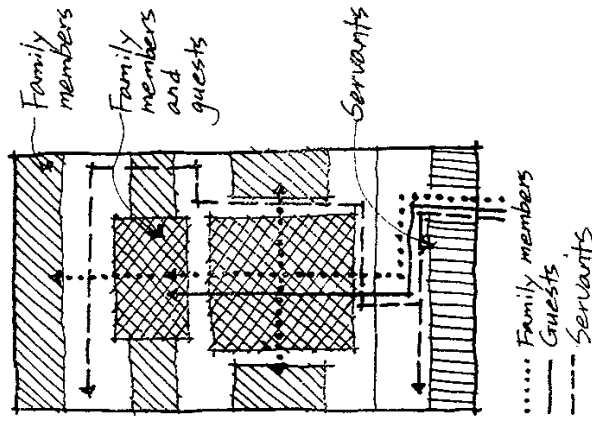


Figure 87: Different function zones in courtyard housing. (By author)

tendency.

Societal Security and Solidarity

A surprising discovery about the traditional *Hutong*-courtyard environment in Beijing is that it could blend the residents and strangers from different social-economic status while at the same time maintaining societal security and solidarity. It is by virtue of this that the *Hutong*, as a public domain, provided a place for residents' activities and hence created security surveillance. On the other hand, as a private territory, the courtyard houses gave opportunities for the residents' self-expression without damaging social solidarity.

Public Space for Surveillance

In housing, the level of security can have an impact on the quality of living. Newman (1972) argues that territorial definition and opportunities for surveillance are the two main criteria for achieving defensible space. Good residential environments should promote surveillance to minimise crime opportunities in their layout.

In the courtyard housing environment, the *Hutong* served as a public domain for the residents conducting various activities. Thus every person passing by the *Hutong* would be watched by the residents who were sitting in the *Hutong* or standing by their gates. In this context the social behaviour of the strangers was remarkably well controlled and a security system in the dwelling district was spontaneously created.

Private Domain for Self-expression

In the *Hutong*-courtyard neighbourhood, only doorways broke the flat walled surfaces of

the *Hutong*. When the door of a house was reached it was hard to tell whether it was a mansion with a proliferation of interior courts, or a simple one-courtyard home; whether it was a wealthy family, or the dwelling of commoners. The only indication of the family status and the size of the household were the form and ornamentation of the front gate. Virtually all of the ornamentation and symbolism that could provide clues to the social status of the residents was concentrated at the Chui Hua Men (hanging flower gate), which was inside the compound and was invisible from the *Hutong*. Only subtle clues could be obtained by careful observation of the occasional goings on around the outer gate. Thus in a traditional courtyard housing neighbourhood, the casual observer always found it quite difficult to know what sort of person lived where, and this veil of anonymity allowed a very stratified, security-conscious society to live in a space that was actually quite socially integrated at the scale of the *Hutong*.

It has been discussed previously that the layout of the courtyard house reflected the hierarchical and patriarchal structure of the Confucian household. However, the courtyard of the house, to some extent, was also a domain for the owner to express himself without damaging social solidarity. The plant, fishbowl, of birdcage in the courtyard all reflected the interests of the owner, and the ornamentation of the courtyard also could reflect the social class of the resident.

The particular environment of the *Hutong*-courtyard neighbourhood thus allowed residents from different classes to live together and be governed by the same social norms. Self-expression could be obtained, but this was primarily achieved inside the house and could not be perceived from the public gaze. Therefore, the enclosure of the courtyard wall contributed to the creation of an urban residential milieu in which rich and poor, elite and commoners, officials and non-officials lived next to one another in neighbourhoods that had no particular or dominant class characteristics.

5.4 Conclusion

This chapter has examined the nature of place in various contemporary theoretical positions. This analysis has revealed that some attempts have been made to retain the sense of place in dwelling environments by integrating traditional elements into a modern context, other attempts have involved establishing principles for modern development based on the planning and architectural tradition of a place.

As a meaningful place for human dwelling, traditional courtyard housing embodies fundamental principles in its physical environment which were supportive of cultural behaviour. The discussion in this chapter indicates that it may be possible to 'modernise tradition' by preserving these fundamental principles. The next and final chapter of the study summaries the essential elements of the traditional courtyard housing and the *Hufong* environment, and contemplates how these principles might be used in the design of future housing.

CONCLUSIONS: REBIRTH

----- Proposals for the Evolution of Courtyard housing in Beijing

Historically, courtyard housing has always been the most significant housing form in Beijing. The social context of traditional Chinese society and the urban context of old Beijing provided the background for the formation of courtyard housing. This study has revealed that courtyard housing embodied traditional Chinese ideologies and beliefs. The architectural form of the courtyard house together with the form of the associated *Hutong*, constituted a unique space and place for the Chinese way of life.

Courtyard housing is now at a crossroads. The uncertainties as to the future of this traditional housing form are linked to the general situation of Beijing today. Rapid changes in technology and economic and social structures have brought changes in what is expected of housing. Because of its low density, poor facilities and minimal infrastructure, traditional courtyard housing seems to be inappropriate in modern society. As a result there is great pressure to shift from the old courtyard housing form to modern housing forms with modern facilities and amenities.

However, this dissertation has demonstrated that while traditional courtyard housing may not meet the newly emerging expectations of modern technologised living, the principles embedded in this housing form may still have value for Chinese dwelling even today. The study has revealed that residents' desire for continuity in their way of life is a major reason to support some continuation of the principles of traditional housing. In the analysis of surveys of residents in Beijing conducted both by the author and other researchers, the study argues that

these residents still aspire to a way of life that emphasises the qualities of privacy, territoriality, security and social solidarity, once achieved in traditional courtyard housing. It would therefore seem desirable that new housing forms should attempt to embody the characteristics which are valued in the traditional housing form.

Inspired by Western urban design and architectural theory and practice, the research explored the possibility that design fundamentals derived from traditional courtyard housing environments could be incorporated into new residential forms, thereby maintaining continuity with Beijing's residential tradition. By analysing the physical characteristics of the traditional housing environment, this thesis has attempted to lay out these fundamental characteristics. In terms of future housing development in Beijing, the major recommendations of this thesis might therefore be summarised as:

- Housing development should facilitate the transmission of traditional principles to new housing forms (see section 5.2);
- Housing development should ensure that the fundamentals of the traditional housing environment are closely associated with the way of life in a modern context (see sections 4.3, 4.4, 5.3);

Design Guidelines for New Housing in Beijing

In spatial and architectural terms, if the goal of housing development is to encourage the continuity of the living culture of the city then it is essential that a network of spaces which embody the attributes of traditional housing patterns penetrate into new housing design. In so doing, what is valued in courtyard housing can be maintained in new built environments. Based on the discussion in the preceding chapters, key characteristics that could potentially

be incorporated into new housing designs in Beijing are summarised below.

At the Scale of the City

In order to incorporate a new housing design into the present residential environment of Beijing without abandoning the tradition of a historical city, housing form could be encouraged to fit into its urban context using the following general strategies:

- In order to respect the city's urban identity, the new housing type should preferably be dense clusters of smaller buildings rather than a single building mass (see section 2.2).
- Strategies should be incorporated into the design to achieve the tradition of social homogeneity. For example, austere colours and simple forms should be encouraged externally to blend new housing into the urban environment (see section 2.2).

At the Scale of the District

The residential subdivision pattern in Beijing has not been greatly changed by modern development. Therefore, new housing design should be encouraged to respect the fabric of the city's residential districts by employing the following strategies:

- New housing forms should be based ideally on a square site plan in accordance with the city's residential lot sizes, which is divided by a gridiron system (see section 2.2).
- In terms of the site plan, the east-west orientation should be preferred where possible (see section 2.2).
- The traditional *Hutong* system ought to be preserved in any reconstruction of residential areas. If not, the layout of districts should follow a gridiron arrangement and respect the narrow-broad distinction (see section 2.2).

At the Scale of the House

It would be desirable to achieve a way of life supported by a housing environment which has the following patterns derived from the traditional courtyard housing environment:

- Designs that involve a spatial gradient in the housing unit corresponding with various functions to guarantee residential privacy. For example, a series of spaces from the most public, least private to the most private, least public (see section 5.3).
- Designs that include a hierarchy of access with moderate depth which provides hierarchical privacy and distance from public spaces. A longitudinal arrangement of the spaces for example (see section 5.3).
- Designs that have barriers between different spaces in the gradient to control residential privacy. For example, walls, gates and screen walls which provide control of visual privacy (both seeing and being seen) (see section 5.3).
- Designs that have a clearly defined spatial hierarchy which facilitates residential territoriality. For example, a series of public, semi-public, semiprivate and private spaces. As to the semi-public spaces, preference should be given to a semi-enclosed space with moderate scale, relating public space and semiprivate space, which also provides space for residents activities, neighbourhood communication, and commercial activities which may be easily monitored at the neighbourhood level. There should also be a semiprivate space relating dwelling units to the semi-public space, preferably across some outdoor space (see section 5.3).
- Designs that clearly delineate boundaries between territorial zones to strengthen the territoriality integrity. For example, walls, fences or other means of boundary to define territorial zones (see section 5.3).
- Designs that include connecting 'nodes' to define the edged of territories. For example,

symbols, decorations and some small open spaces relating the various territories (see section 5.3).

- Designs that allow a high degree of territorial expression to obtain identity and social solidarity. For example, a control of outdoor space by residents including the ability to carry out recreational activity, and to insert self-built or self-designed modifications (see section 5.3).
- Designs that take into account the Chinese tradition of dwelling preferences. For example, a walled enclosure, inward orientations of the rooms and low-storey housing (see section 5.3).
- Designs that include design and aesthetic devices to help people gain a sense of place and belonging. For example, identification symbols, such as traditional prints, which could recall the historical and cultural heritage of traditional housing (see section 5.3).

Clearly, the application of these principles would need consideration in the particular context of each project.

Strategies for Guiding Housing Development in Beijing

In order to incorporate the proposals for the evolution of courtyard housing into the development processes in Beijing, a new set of strategies would be required. Not only would a set of planning policies need to be established for housing development control, but planning administration would also need to undergo change. In terms of architectural design, guidelines would need to be put in place for new housing developments.

In order to incorporate into practice the principles proposed by this study, one possible

approach would be to adjust planning regulations to better suit both the demands of the housing market and the principles of culturally conscious development. Such a strategy could focus on strengthening government control, establishing a management hierarchy and constituting effective design guidelines.

Existing planning administration models could be examined as a potential source of management principals and structure which may facilitate incorporating design proposals. Instead of dividing the responsibilities according to the size of the project, a management hierarchy might be established to facilitate control at each stage of housing development projects. At the top of this hierarchy in Beijing, the Municipal Urban Planning Bureau (MUPB) could appraise each project according to the Comprehensive Plan. This appraisal could focus on aspects of the residential environment which are most able to accommodate changing ways of life, yet which also maintain a memorable spatial and visual coherence for the city as a whole. An appropriate government organisation under the MUPB, such as a Housing Development Office, could be established to take over the responsibility for detailed management once a housing development project is approved. Development controls could then be based on a Detailed Development Control Plan and a set of planning proposals conducted by the Office. The implementation of the project could be managed and supervised by the District Urban Planning Bureau according to the Detailed Plan Proposals and guidelines (As explained in chapter three, there are currently no provisions for controlling the results of development once initial approval is granted). In redevelopment projects, residents of the neighbourhoods to be developed should be allowed greater participation in the planning and implementation of projects. Such a process for monitoring the construction process of a development is well established in Hong Kong, where the Town Planning Board can specify planning conditions for approved planning applications (Lai 1997). These conditions are

enforceable.

In housing projects, instead of requiring the complete site engineering plans and indexes as the basis for granting project approvals, the Housing Development Office could employ a more general plan, plus design guidelines for the architecture that could be applied to various projects. Based on the design proposals put forward by this study, guidelines should be set up to present development controls by defining performance criteria and illustrating ways of meeting these by what is considered as acceptable solutions. This is similar to the approach now being adopted by planning authorities in Australia (AMCORD 1995), which seek to promote a more performance based, rather than overly regulatory framework for assessment.

Additional Research

Some suggestions as to the implementation process have been made. However, before this could be finalised, it would be necessary to undertake additional research in several key areas. This would include research into possible urban management models, research into economic viability and research into detailed architectural design implications.

Firstly, a management model capable of implementing the proposals in the particular projects would be needed. The potential for municipal and district planning authorities to undertake a greater role in housing development control would need to be investigated. For example, the research commenced by M.K. Ng and F. Wu (1995) could be expanded to include a consideration of establishing a feasible management model. Secondly, a strategy which is both economically viable and commercially attractive to developers who might use the design proposals would need to be developed. Thirdly, there is a pressing need for

investigation of housing types with possible solutions which can fulfil density requirements without abandoning the traditional design principles outlined in this thesis. This task might, for example, fit appropriately with the current work of professor Wu (1994) as part of his Juer Hutong project experiment.

Broad Implications for the Evolution of other Traditional Housing

In addition to the development of courtyard housing in Beijing, the study has revealed the following strategies which may be of use in facilitating the evolution of other traditional housing in transition:

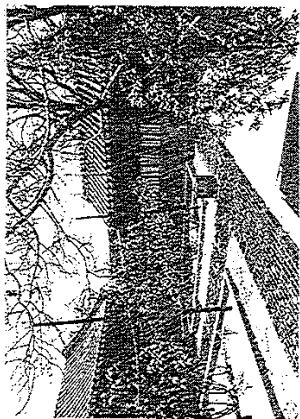
- It is necessary to properly understand the housing tradition and its social-cultural connotations before it is possible to determine how traditional housing might be usefully transformed to meet contemporary needs. In order to obtain this understanding, it is essential to examine historical and current texts, photographic evidence and so forth (see Cassault 1988)
- It is important to examine the dynamics of social-cultural change within a particular context and examine the impacts of this process on the traditional housing before determining an appropriate development approach. This can be achieved through planning focus groups with residents and through ongoing consultation regarding design elements (see Bian 1989).
- Exploration of traditional housing development should be based on research into the local way of life through study of the behaviour of residents who have a reciprocal relationship with the residential environment (see Abramson 1997).
- Modern models of housing development which disregard local tradition are likely to be

less effective than those that take into account the local housing tradition because residents cannot sustain cultural connections and identity (see Tan 1997). Proposals for housing development are therefore likely to be more successful if they integrate the 'essentials' of traditional housing with contemporary housing expectations (as this research has demonstrated).

Epilogue

Throughout this study it has been emphasised that achieving continuity of a way of life is important in the way a house is inhabited. To argue for continuity with the past may seem absurd to those who feel the only way forward is to change, and do so quickly. However, continuity is something that is most yearned for, ironically, when change finally begins to bring us what we desire. To destroy completely our past and to try to change our life by creating new living environments would seem to lead to a loss of cultural identity.

When this dissertation was nearly complete, there was news from Beijing that one of the most significant courtyard house compounds — Meishuguan Hou Jie No.22 — was to be demolished. This is definitely not the last courtyard house which will be forced to give way to new developments. The hope of this author is that even though the residents of Beijing are losing their traditional housing, they will not also lose their unique cultural life and identity.



*Meishuguan Hou Jie No.22.
(From New Weekly 2000, No. 6, p.26)*

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APPENDIX 1: Hierarchy of Plans in China

In China, the urban planning system is based on the 1989 City Planning Act endorsed by the People's Congress in December 1989. The Act stipulates that the planning authorities of the State Council, people's government of provinces and municipalities are responsible for preparing urban plans. The municipal governments are also responsible for producing strategic outlines to guide the formulation of comprehensive city plans (City Planning Act 1989).

A hierarchy of plans is listed in the Act. Local municipalities prepare comprehensive city plans which include the designated function, the development goal and development size of the city, the standards, norms and criteria for the main constructions in the city, and the land use structure, zoning, comprehensive arrangements for all types of constructions and so forth. The duration of the comprehensive plan is usually 20 years. In addition, five-year short-term plans, a component of the comprehensive city plan, handle the spatial distribution of major construction items. For large and medium sized cities, district plans should be compiled on the basis of the comprehensive plan, in order to further control and define the use of land, the scope and capacity of each plot, as well as to co-ordinate various items of infrastructure and public amenities and facilities. The lowest hierarchy of plans is the detailed plan, which stipulates permissible land uses for each construction project within the planned plot, controls building density, height, and general layout, and regulates the engineering of utilities and other works. This plan generally consists of two elements: a detailed development control plan and a detailed construction plan (City Planning Act 1989).

Different authorities are responsible for approving the plans specified in the Act. For example, the comprehensive plan of Beijing is examined by the Beijing People's Municipal Government (北京市人民政府) and approved by the State Council (国务院). District plans and detailed plans in Beijing are examined and approved by the Beijing People's Municipal Government.

APPENDIX 2: Beijing Residents Questionnaire

This investigation is only for research uses, thank you for your help.

Date: _____ Sex: Male Female Age: 1-18 19-30 31-50 51-70 Occupation: _____

A: Investigation of Status Quo

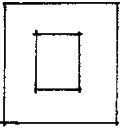
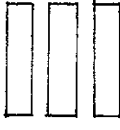
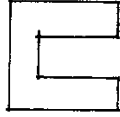
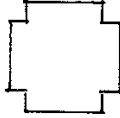
1. Have you lived in a courtyard house? Yes No
2. You are living in _____ district now. Which ones of following of the district give you the deepest impression? (1-3 items)
 Physical environment Geographic position Transportation Green land Facilities and infrastructure Others: _____
3. Now you are living in: Courtyard house Low-story house Middle-rise apartment High-rise apartment Others
 If you are living in a courtyard house now, it is: Shared with other _____ families Lived by your own family Others
 How many years have you lived here? _____ How many generations together in your family live here? _____
4. How many people in your family live in your home? _____
5. How many square meters do you have for living space? _____
6. Which items of following do you have in your home?
 Living room: Bedroom: Kitchen: Bathroom: Storeroom: Others
 7. Which of the following is the way in which you are using to get warm? Central heating Coal Others
 8. Which of the following are you using to cook? Natural gas Gas tank Coal Electricity Others

B: Housing Preference

9. What kind of family structure do you like? Extended family Nuclear family
10. Given the same district, facility and living space, which of the following residential type would you prefer?
 Courtyard house Middle-rise residence High-rise residence Other

If you choose courtyard house, which of the following do you prefer in the same condition of living space?
 Shared with other families Lived by your own family

11. Which one of the following plans of residence type would you prefer?

A.	B.	C.	D.	E. Others
				

12. How do you like courtyard housing? Like very much Like somewhat Dislike somewhat Dislike very much
13. Why do you like it? (1-3 items)
 Good geographic position and convenient transportation Low-storey Appearance and colour Physical environment
 Neighbourhood Quiet Having Courtyard Safety Other:
 Inconvenient without interior connection Noisy Bad infrastructure and public facilities Bad orientation
 No parking space
14. Do you like the Hutong of Beijing? Yes No
15. If you are living in courtyard-Hutong environment, do you most often spend time talking with neighbours in the Hutong? Yes No

C: Suggestions

17. To which degree do you think that the courtyard housing in Beijing should be protected?
 Totally protected Partly protected All demolished Reconstructed Others:
18. Do you know following reconstruction experience of courtyard housing?
 Juer Hutong Xiao Hou Cang reconstruction Others:
19. Could you describe your ideal living environment:
20. What kind of contents you think should be added to this questionnaire?
21. Other opinion:

APPENDIX 3: Beijing Residents Interview

This investigation is only for research uses, thank you for your help.

Date and Time of Interview: _____ Address: _____
Sex: Male Female Age: 0-18 19-30 31-50 51-70 Occupation: _____

A: Physical Conditions

1. Layout of the household (sketch): _____ square meters.

2. How long have you lived here? _____ Years. How many persons are there in this household, their sex, age and relationship?

1	Relationship with the head of the household	Male	Female	0-18	19-30	31-50	51-70	70-
2								
3								
4								
5								
6								

3. How many rooms are there in your house?

A. Bedrooms: B. Living room: C. Baths: D. Kitchen: E. Storage: F. Other:

4. What do you think are the biggest advantages and disadvantages of this house?
Advantages: _____
Disadvantages: _____

5. Please rate the value of following aspects of your house, and please tell us that you think they are important or unimportant?
- | | Very good | Good | Fair | Poor | No answer | Important | Unimportant |
|---|-----------|------|------|------|-----------|-----------|-------------|
| Not high-rise | | | | | | | |
| Sharing with other families | | | | | | | |
| Sufficient Living area | | | | | | | |
| Facilities and infrastructure | | | | | | | |
| Quality of aesthetic appearance | | | | | | | |
| Quietness of your house | | | | | | | |
| Security of your house | | | | | | | |
| Space arrangement | | | | | | | |
| Hierarchy of access | | | | | | | |
| Enclosure | | | | | | | |
| Arrangement of Ying Bi | | | | | | | |
| Rooms all facing inward | | | | | | | |
| Connecting rooms with outdoor verandahs | | | | | | | |
| Having courtyard | | | | | | | |
6. Do you like courtyard-Hutong neighbourhood? Yes No
7. What do you think are the biggest advantages and disadvantages of courtyard housing neighbourhood?
 Advantages: _____
 Disadvantages: _____
8. Please rate the value of following aspects of your neighbourhood, and tell us that you think they are important or unimportant?
- | | Very good | Good | Fair | Poor | No answer | Important | Unimportant |
|---|-----------|------|------|------|-----------|-----------|-------------|
| Position in relation to the city | | | | | | | |
| Trees, parks and open space | | | | | | | |
| Aesthetic quality of physical environment | | | | | | | |
| Security in the Hutong | | | | | | | |
| Quietness of the neighbourhood | | | | | | | |
| Relationship with neighbours | | | | | | | |
| Commercial activities in the Hutong | | | | | | | |

9. If courtyard housing were upgraded so that your family had privacy and modern services, would you prefer to live in a courtyard house or other housing form, why?

B: Residential Behaviour

10. Could you please simply describe your ordinary life at home, weekdays and weekend?
11. In general, where do you wash, prepare and cook food; where do your family have meals; where do your family entertain your neighbours and friends?
12. If there are children or elderly people in your home, where do they have activities?
13. When do you feel you get home, when you enter the Hutong, the courtyard house or your own room?
The Hutong The courtyard house My own room
14. When the weather is fine, do you spend time outdoors in the courtyard?
Very often Often Sometimes Seldom Never
15. How do you use your courtyard?
16. When the weather is fine, do you spend time in the Hutong?
Very often Often Sometimes Seldom Never
17. In general, what do you do in the Hutong if you have some time to spend there?
18. What do you think of having opportunity to buy goods from the peddlers in the Hutong?
Very good Good Fair Bad No answer
- What do you think if you could hear the peddlers when you stay in your house?
Very good Good Fair Bad No answer
19. Do you feel that your part of the courtyard house is crowded? Yes No If yes, do you mind? Yes No
- Do you feel that the whole courtyard house is crowded? Yes No If yes, do you mind? Yes No
20. Do you think it is important that you be able to spend time alone? Yes No
- When you need it, can you find a place in this house to get away by yourself?

- Anytime Most of the time Sometimes Not at all
21. Do you think that it is important to have privacy from your neighbours? Yes No
- Do you feel that you have privacy from your neighbours in your courtyard? Yes No
22. Would you say that most of the people in this neighbourhood are pretty much the same or are they pretty different from one another, in terms of their social, economical and educational status?
Pretty much the same Pretty different Don't know

Do you think it is good or bad? Very good Good Fair Bad No answer

C: General Questions

23. On the whole, how happy are you living here? Very happy Pretty happy Not too happy

24. If, for any reason, you had to move from here to some modern apartments, what do you feel?
Happy to move Wouldn't make any difference A little unhappy Very unhappy

25. Please indicate for each of the following sentences whether you agree or disagree with it and why.

Agree Disagree Why

*When I go outside and look around me at the Hutong and the neighbours' homes I like what I see.

*Most people around here would like to have convenient commercial market near their home.

*Most people around here would like to meet their neighbours in the Hutong rather than in their house.

*A hierarchy of access to the house is good for the residents to control privacy.

*The enclosure of the house gives the residents a feeling of home and security.

*It is good for the residents having the relation with outside world while they are inside home.

*A modern style of architecture is more attractive for a new home than the traditional style.

*The life in modern apartments would be much happier than the life here.

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