

Past and Present: Transformation of An Ideal City – Beijing

By

Feng Xiao

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Brian Katen

Wendy Jacobson

Joseph Wang

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(Abstract)

Early Chinese city planners and builders succeeded in creating a imperial ideal city – Beijing. The spatial order of Beijing expresses the elaborate system of imperial hierarchy (meaning). Since the founding of People’s Republic in 1949 as all the physical elements which defined the old spatial order have changed, the Chinese State attempted to reconstruct a new ideal city –a people’s capital of socialist era. Some of these changes ignored the historical and aesthetic values of the traditional elements for utilitarian functions. This thesis examines the transformation process of this ideal city in terms of the physical elements and sociological perspectives, identifies the unique order and meaning of urban space in the ideal city – Beijing, and articulates some design principals that could be used to reconstruct a new ideal city – Beijing, express the new ideology of the people in the socialist era and preserve the historical and aesthetic values of traditional elements.

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Chapter One

Introduction

Research Question

The time has come to rebuild our cities. Since the beginning of Chinese history, Beijing has been associated with adventure, romance, and monumental, magnificent buildings. I have been impressed by the splendid order and meaning of the imperial ideal city, however, as a native of Beijing, I also have witnessed changes to the order and meaning of the ancient city plan.

Early Chinese city planners and builders succeeded in creating an imperial capital of immense grandeur, a city with clear spatial order defined by five key elements: 1. boundary of city – walls, 2. the most important institutions – the Forbidden City, 3. a clear spatial organization – the north-south axial alignment and the nesting of walled enclosures one within the other, 4. the circulation system of streets, and 5. the interrelationship between the courtyard house and the city. This order reflects the elaborate system of imperial hierarchy: the meaning of the city.

Since the founding of the People's Republic of China in 1949, the Chinese State has attempted to reconstruct a people's capital of the socialist era that must glorify the power and dignity of the people. The spatial order of people's capital was greatly influenced by this new ideology of the people and by functionalism, a design approach which is distinguished by functional zoning and by "international style" high-rise buildings. In reconstructing the people's capital, the traditional human scale and local culture were ignored. Since 1949, all the physical elements that defined the old spatial order have changed: the Forbidden City has been transformed to a public museum; the new heart of city – Tiananmen Square was constructed for the ceremonial purpose of celebrating the achievements of socialist construction. Moreover, the walls of the old city and the Imperial City were demolished and the nesting of enclosures was lost; the east-west Changan Boulevard has formed a counter-axis to the primary north-south axis; ring roads and radial roads have been added outside the traditional chessboard pattern of streets to form a new concentric-radial network. The traditional houses were affected by the pressure of urban growth, with informal structures added to the courtyard even as the condition of the houses deteriorated. Today, the living conditions in these courtyard

houses are very bad. Finally, the clear relationship between the organization of the city and courtyard house no longer exists. The development of new “international style” mid-rise and high-rise buildings was initiated by functionalism. In these new buildings, the density of the population was increased by building more stories. These new buildings ignored the local culture and human scale. The styles of these buildings make a clear contrast with traditional courtyard houses. Even though more privacy was achieved for the inhabitants, these new buildings lacked open public space for the social communication that was an important part of the traditional courtyard houses. All of these changes to the defining physical elements of the city ignored the historical and aesthetic values of these traditional elements for utilitarian functions.

The research problem in this thesis is “what is the order and meaning of urban space in the Chinese capital – Beijing?” The subproblems include: “What is the order and space meaning of Beijing as a imperial ideal city?” “How did the order and meaning changed from an old imperial city to a contemporary socialist capital?” “What factors influence this process of change?” “What can we as designers identify for reconstructing Beijing that will reflects the new ideology of the people in socialist era and preserve the historical and aesthetic values of the traditional elements?”

Objectives

The objectives of this study are:

1. to identify the unique order and meaning of urban space in the ideal city – Beijing,
2. to identify the new spatial order and meaning of Beijing through examining the transformation from an imperial ideal city to a contemporary socialist capital.
3. to articulate principles to guide further development of Beijing, which reflect the new ideology of the people in socialist era and preserve the historical and aesthetic values of the traditional elements.

Literature Review

To accomplish the objectives, a review of the evolution of ideal cities will be used as theoretical underpinnings: First, we will explain how the physical elements in the ideal city are used to define the spatial order; Second, we will review how ideology is reflected in the spatial order of the ideal city and give it meaning.

Methodology

The methodology is divided to two parts: the first part is data collection, the second part is the analysis of that data.

The data will illustrate the transformation of spatial order and meaning of Beijing from an imperial ideal city to a people's capital in the socialist era. It will be collected mainly from the secondary sources. Because the data collection includes existing conditions, site visits and observation were needed.

The review and analysis contain two parts: the first part focuses on an analysis of the spatial order and meaning of the imperial ideal city – Beijing. I will review the origin and history of the city plan, the kinds of physical elements that defined the spatial order of the imperial ideal city and how these physical elements expressed both the ideology of people and the deeper meaning of social conditions. The second part is the analysis of the transformation of the spatial order and meanings of Beijing from an imperial ideal city to a people's capital in the socialist era. The changes in physical elements (order) are connected with the transformation of the ideological and social conditions of the urban society (meaning). The review of the evolution of ideal cities will be used as the theoretical foundations of the data analysis.

A case study approach will incorporate the method utilized for the data collection and data analysis. A case study approach can illuminate an individual or set of processes, events, or decisions. This type of study approach can help define why such factors were undertaken, how they were implemented and with what result. (Yin, 1984) Case studies will be presented at two different scales of the city: the first at the public and national scale is the development of the city's most important space – from Zheng-yang Men to Tian-an Men; the second is a proposal for a new type of courtyard house and focuses on the domestic scale. These case studies also illustrate the impacts of changing ideology on

the transformation of some physical elements at different periods, and they also provide resolutions of the existing problems at these two scales. (See Figure 1.1 A Conceptual Model, p.5)

Framework

Chapter two contains a literature review on the evolution of ideal cities. I will review the evolution of ideal cities from the concerns of two groups: those philosophers and architects who posed ideal cities from the pre-industrial society to the emergence of industrial society. I will discuss the philosophers' and architects' thoughts and works from two perspectives: the physical elements which defined the spatial order of their ideal cities and the sociological and ideological meaning expressed by the spatial order. Functionalism, a design approach which impacted the development of ideal cities of industrial society, beginning in 1920s, will be presented separately.

Chapter three focuses on the analysis of the order and meaning of space of Beijing as an imperial ideal city. Chapter four analyzes the transformation of the spatial order and meanings as imperial Beijing was transformed to the people's capital in the socialist era. Moreover, A case study approach will incorporate the method utilized for the data collection and data analysis.

In chapter five, some principles will be proposed to guide further developments of Beijing. These principles reflect the new socialist era's ideology and preserve the historical and aesthetic values of the city's traditional elements.

In the final chapter, the conclusion will also discuss the success of this study in achieving its the objectives, the importance and value of this study, how other contexts might be addressed with the knowledge gained from the study.

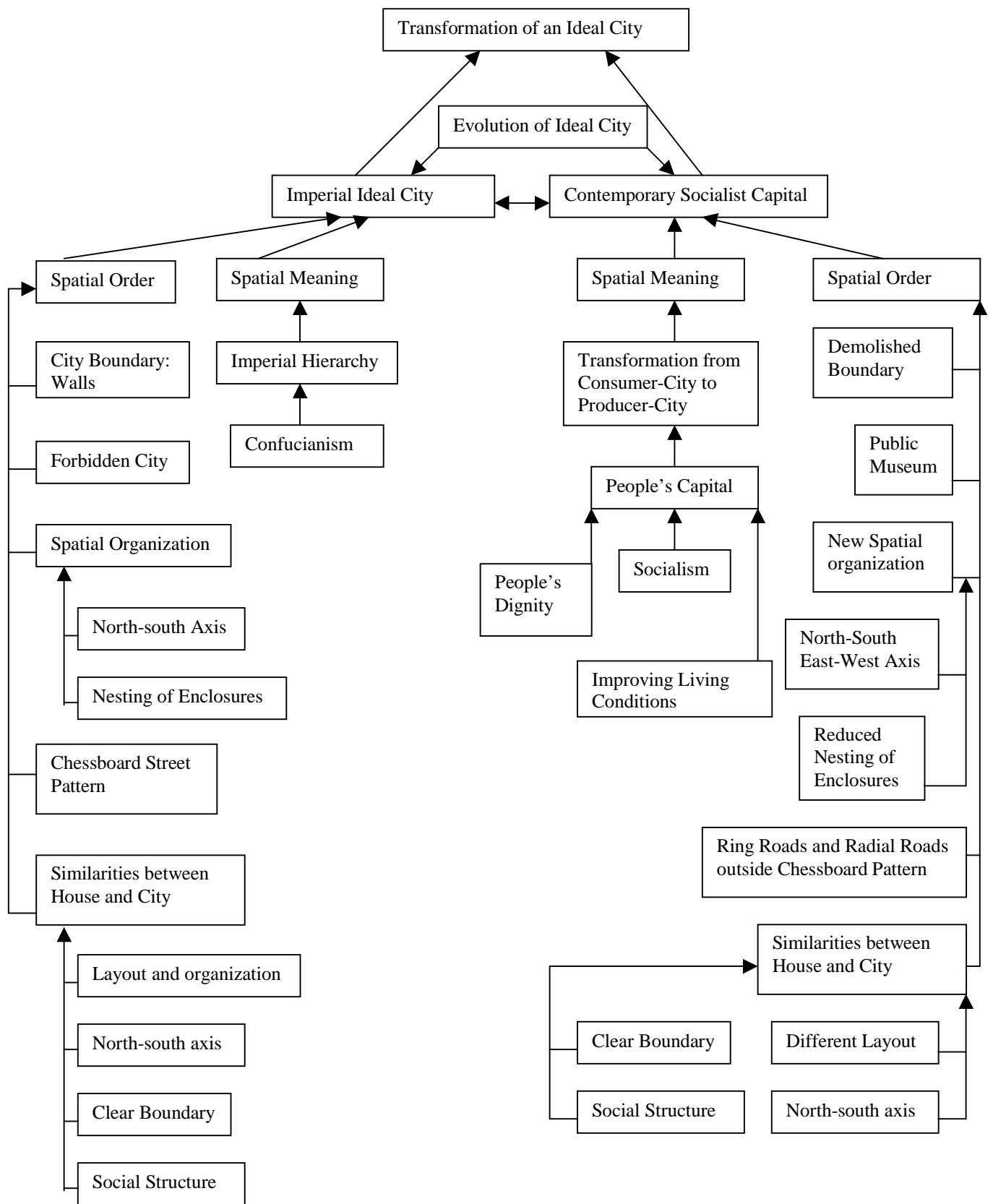


Figure 1.1: A Conceptual Model

Chapter Two

Evolution of Ideal Cities

“An ideal city represents a religious vision, or a secular view, in which social consciousness of needs of population is related with a harmonious conception of artistic unity.” (Rosenau, 1974, p.13) The spatial order of the imperial ideal city – Beijing brought cosmos and society into perfect geometric plan to demonstrate the emperor’s supreme power. Five physical elements defined the spatial order: the walled boundary of city, the most important buildings (Forbidden City), the spatial organization (the axial alignment and nesting of enclosures, one enclosure within another), the chessboard circulation system which linked the Imperial Palace with all parts of the city through wall gates, and the relationship between the city and courtyard house. With the transformation of the social system and ideology of people by socialism after 1949, the plan of Beijing was transformed. The traditional elements changed to express the new functions and the new ideology. A review of the evolution of ideal cities will help us understand the transformation of Beijing and how the city’s physical elements, ideology, and social conditions impacted each other during different periods. We can then review the five elements of the ideal city which defined the spatial order and their sociological and ideological expression (meaning).

The plans of almost all ideal cities are perfect geometric patterns. Through the geometric diagram, the ideal city expresses both the social background and the attitudes or values of the dominant sectors of society. The perfect geometric pattern always relates to the cosmology and ideology of the people. Ideal cities were posed by philosophers from Plato to Andrae, and by architectural rhetoricians and builders from Alberti to Le Cobusier and Soviet Architects.

Philosophers’ Concern

The earliest ideal city is that described by the philosopher Plato in the *Republic*:

“ It would seem that our city, ...must provide for practically the whole of its house-building, arranging all the details of its architecture, including temples and walls. The temples we must erect all round the market-place and in a circle round the whole city, on the highest spots... beside the temples we will set the houses of the officials and the law-courts in which, as being most holy places, they will give and receive judgements – partly

because therein they deal with holy matters, and partly because they are seats of holy gods;...” (Laws, VI, 778A)

The physical elements that defined the order of Plato’s ideal city included: the boundary – walls; and the location of important institutions –temples are on the highest spots, the geometry of the ideal city-circle. Moreover, these physical elements expressed the meaning of the city and indicates “that a city meant something more than a conglomeration of buildings: it was conceived as a spiritual entity, ...it remained a political entity”. (Lang, 1952, p.92)

Another ideal city posed by a philosopher is Bartolommeo Delbene’s City of Truth (1609), based on Aristotle’s *Nicomachian Ethics* (Figure 2.1). A wall formed the boundary of Delbene’s city. In the center is the most important institution – a tower which represents the intellectual virtues. The radial organization of this plan combines concentric spaces and radiating roads that join the center to the periphery. The roads also serve as dividers for some intermediary city spaces in the circle. There is also a road at the city perimeter, and the radiating roads linked the most important centered space to this road along the city walls through the radiating roads. These physical elements of the plan define a round, walled city “with five roads of the moral virtues emanating from a center of intellectual virtues and cutting through the swamps of vice” to the city periphery. (meaning of space) (Kostof, 1991, p.163)

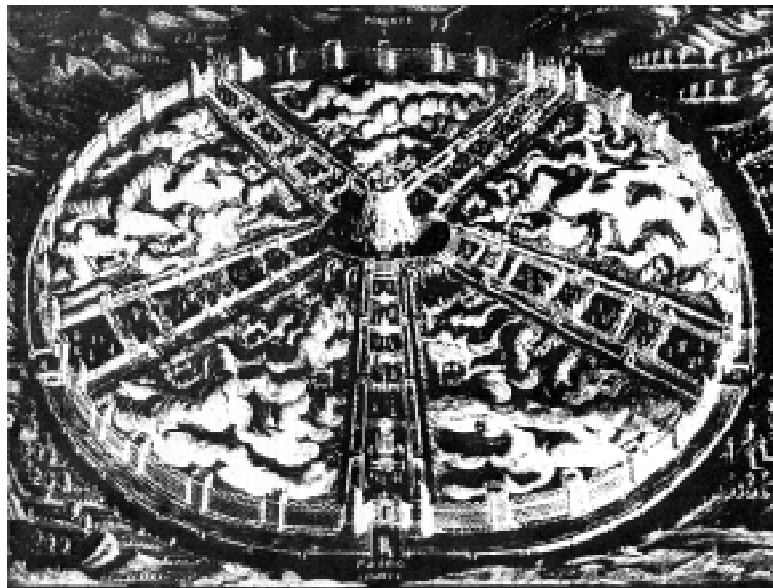


Figure 2.1 City of Truth (from Lang, 1952, p.90)

Next ideal city is Andreae's *Christianopolis* (1619) (Figure 2.2). This city also has a centralized plan with a clear geometry:

"Its shape is square, whose side is ... well fortified with four towers and a wall. It looks, therefore, toward the four quarters of the earth. Eight other very strong towers, distributed throughout the city, intensify the strength; there are sixteen other smaller ones that are not to be despised; and the citadel in the midst of the city is well nigh impregnable... Outside the wall is a moat stocked with fish, ... not for purpose of entertainment but for practical use." (Andreae, Book VII, 1623, p. 149)

utopia

Visually Andreae's Christianopolis, derives mainly from Dürer. Although many features may have an allegorical ancestry (the central edifice, e.g.—a church it seems—has a great affinity with Delbene's central mount or Saint Augustine's tower) it is horrifying to think that these barracks were considered worthy abodes for the citizens of the Ideal Commonwealth, and one has to ask oneself whether that is what would happen to mankind had the utopians their way.

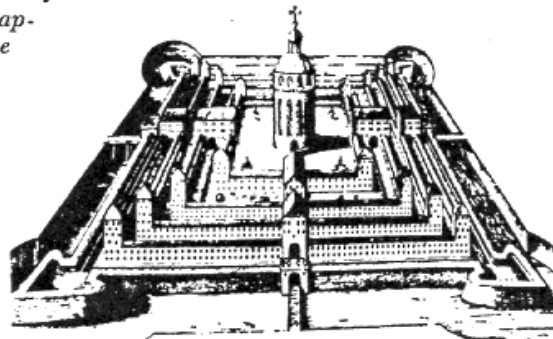
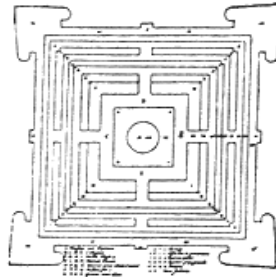


Figure 2.2 *Christianopolis* (from Lang, 1952, p.100)

The largest squared wall and a moat defined the city boundary. The most important public building—the citadel, is located in the center of the city. A series of centralized walled squares formed the city's spatial organization, a series of gates are located on each of the four sides. Towers are erected at the corners of each wall. The walls and towers formed nesting of enclosures, one enclosure within the other. The circulation system linked the citadel and the other parts of city through gate in each side of the walls. These elements clearly defined the spatial order of the city.

The city's name, *Christianopolis*, suggests "the mixture of Christian symbolism and Platonic thought". (Lang, 1952, p.100) And the relationship of the city's spatial order to the social order can be detected in his text: "About four hundred citizens live here in religious faith and peace of the highest order." (Andreae, Book VII, 1623, p. 149)

These three ideal cities posed by philosophers have some similar physical elements found in Beijing: all four ideal cities have walled boundaries; the most important institution is in the center of city; they all are centralized spatial arrangements. The nesting of enclosure (spatial organization) in *Christianopolis* is also similar to Beijing's. Although the pattern of the circulation systems of City of Truth and *Christianopolis* are different, their main circulation linked the most important architecture (the centered space) with the other parts of city. This same circulation is found in Beijing. The philosophers all used these physical elements to “accompany the tidy systems of their moral philosophies.” (Kostof, 1991, p.163)

The Layout of Chinese Ideal City

The quintessential Chinese ideal city was discussed by Chinese Philosophers in the Confucian classic – Zhou Li (or Zhou Rituals) three thousand years ago. According to this book, a city ought to be built nine Chinese *li* (2.7 miles) square with three gates on each side. Nine major thoroughfares running north-south should intersect with nine other east-west thoroughfares, and the north-south thoroughfares should each be nine-chariot wide. On the east side of the city the Temple of Ancestors should be built, while on the west side there should be the Altar of Earth and Grain. The market place should be situated in the north, while the imperial court should lie in the southern part of the city (Figure 2.3: Plan of Wang Cheng).

The rules of Chinese town planning laid out in Zhou Li aimed at making the city a cosmos—a true image of the universe as an ordered whole. The ideal capital city was a quadrilateral girt – a square with walls pierced by twelve gates corresponding to the twelve months of the year. The royal residence, squared and walled, lay in the center like a city within city. Each edifice had its proper place. In the middle, the audience hall opened on a road that passed between the Altar of earth and Grain and Temple of Ancestors and ended at the South Gate. This avenue was used by the procession of vassals on their way to pay homage to the prince, who sat facing south. Situated at the very heart of the city, and symbolically at the heart of the universe, the palace faced south and turned its back on the market, which was located at the northernmost edge of the enclosure; an inferior position reflecting the status of trade and commerce. (Steinhardt, 1990)

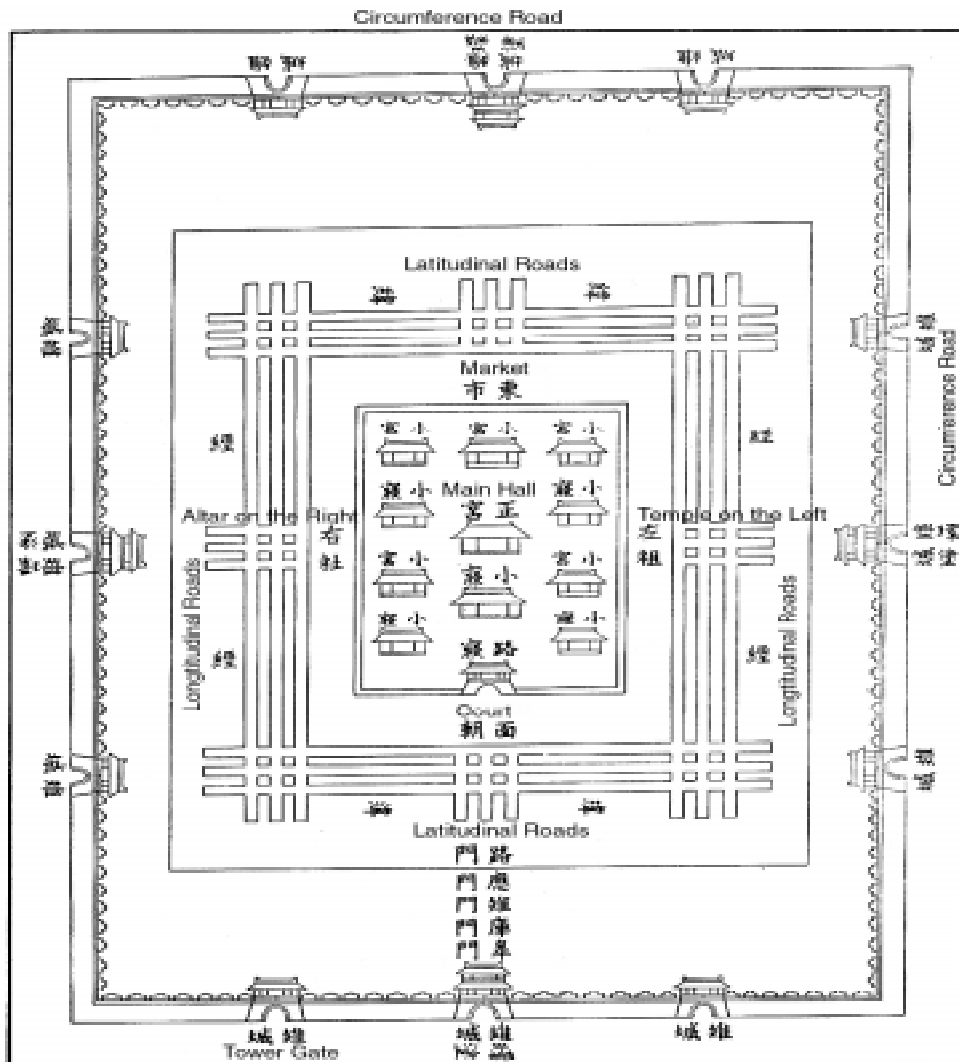


Figure 2.3 Plan of Wang Cheng (Redrawn from Yong Le Da Dian, 1425)

In Chinese cosmology, the earth was square; heaven was round. Space was conceived of a series of imbricated squares, at the center of which lay the capital of empire strictly orientated to the points of compass. The south is the direction of Red Phoenix, of summer and fire. From the north came winter and destructive hordes. Its color was black. Therefore, the imperial palace and all important buildings faced southward, the emperor faced away from north when he addressed the gods or his ancestors.

In the palace, various Chinese emperors built calendar houses called *Ming Tang*. The emperor adjusted his behavior to nature's cycle, moving from hall to hall as the

seasons changed and completing one revolution in the course of a year. This cosmic schema, called the *Great Plan*, came from heaven to the first (mythical) dynastic emperor Yu. Its basis was a nine-fold square, which was also the composition of the *Ming Tang*.

Yu measured the world and divided it into nine regions. His prime mythical work was that of the surveyor and after he had divided the world it was possible to cross the nine marshes, the nine rivers and the nine mountains without danger. Yu possessed nine tripods which were an image of the world; and heaven added to his power by having a tortoise bring him on his back the nine numbers which signified universal order. The tortoise is a mysterious animal. The underside its shell is square and the top domed, the tortoise is an image of the universe. It is long lived because by its anagoric form it participates in the life of cosmos. The diagram that underlies much Chinese divination is the nine-fold square made up of all numbers up to ten enclosed in a magical square, so that any line of three digits adds up to fifteen (Figure 2.4). (Rykwert, 1976)

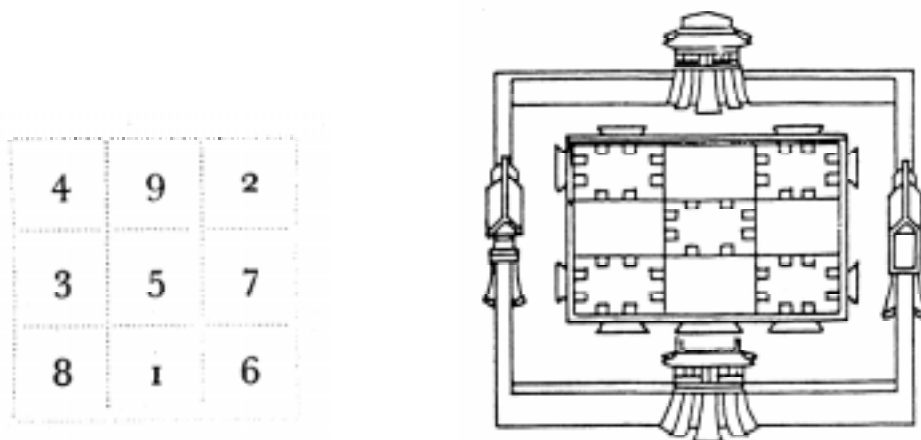


Figure 2.4 Great Plan (from Hua Xia Yi Jiang, 1984)

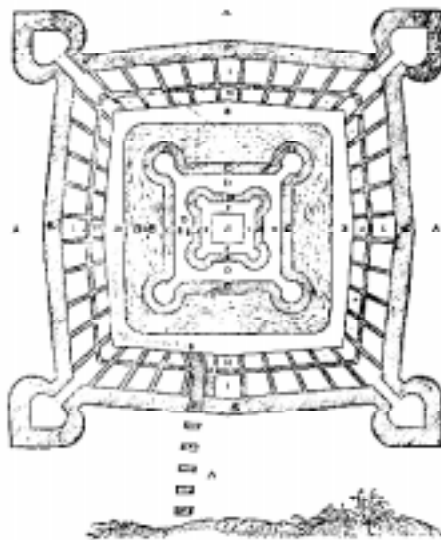
This layout of Chinese ideal city posed by the Ancient Chinese philosophers is the origin of the imperial ideal city – Beijing. The city wall with gates on each side formed its boundary; the most important institution – the imperial palace was at the center. The north-south axis was created by the avenue from the gate of the Audience Hall to the south gate of the city ordered the city. The chessboard circulation system linked the gates on the city wall to the palace at the city center. The spatial order defined by these elements clearly expressed the Chinese cosmology. These physical elements also have similarities with the three ideal cities described by Plato, Bartolommeo and Andreae.

Architects' Concern

The works of the western philosophers would provide the philosophical basis for the Renaissance architects to propose ideal cities.

Leone Battista Alberti (1404-1472) is the first Renaissance architect who speculated on the ideal city. Alberti emphasized the intimate relationship between the city and the house, “...for if a city, according to the opinion of philosophers, be no more than a great house, and on the other hand, a house be a little city...” (Albert, p. 13)“...that a house is a little city, we are therefore in building of it, to have an eye almost to everything that relates to the building of a city...a private house is manifestly designed for the use of a family, to which it ought to be a useful and convenient abode...” (Alberti, p.101). As we will see, this very important physical relationship helped define the spatial order of the ideal city – Beijing.

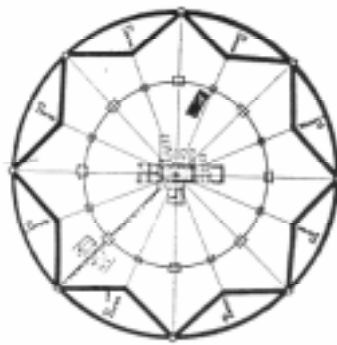
Alberti's most detailed ideal city plan is in the description of the tyrant's fortress city (Figure 2.5). This is another plan of a walled city. With walls defining the boundary of the city. The most important institution – the palace is in the center of city. The three centralized walls formed the three enclosure spaces, one within the other. The meaning of these walls “was to protect the palace equally against external and internal foes.” (Rosenau, 1959, p.50)



Alberti, *Fortress of a Tyrant*:
Figure 2.5 (from Alberti, 1553, French edition)

The first fully planned ideal city was described and illustrated by the great architect Filarete between 1457-64. In his 'Treatise on Architecture', preserved in the *Codex Magliabecchianus* in Florence, Filarete described the fictitious city of Sforzinda designed for Francesco Sforza, tyrant of Milan, and named after him. (Rosenau, 1959)

The two principal codices contain three diagrams of Sforzinda (Figure 2.6, 2.7, and 2.8). Three walls formed the boundary of the city and the palace, and intensified the power of the emperor. Two squares laid one above the other in such way that their angles are equidistant. The gates of the city were fitted in the inner angles of the star, and towers were located at the outer angles. At the center was a main open space – the central square, all important institutions were located around the central square: the prince's palace, the cathedral, and the merchants' markets. Sixteen secondary squares with markets and churches were located throughout the city. (Kostof, 1991) But in this plan, Filarete did not really concern himself with circulation, and how to connect the center to the gates and the other sixteen squares.



Filarete

1.3 is the final plan of Sforzinda, Filarete's ideal town. Its outline clearly derives from two superimposed squares, as they can be seen in it which is a diagram more than anything else, a diagram which, moreover, comes from a significant 'magic' sign. The points of the stars in 1.3 are connected by canals with the Fiume in the centre, the gates by roads. The absence of details in the arrangement of streets and houses is noticeable; only a circle of squares half-way along the roads and canals is indicated and very few buildings.

Figure 2.6 Sforzinda (from Lang, 1952, p. 95)

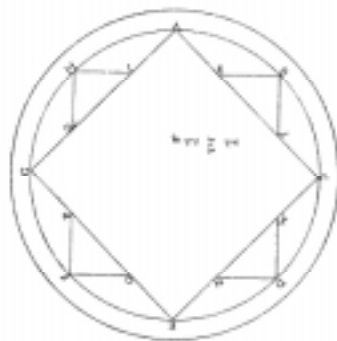


Figure 2.7 Sforzinda (from Lang, 1952, p.95)

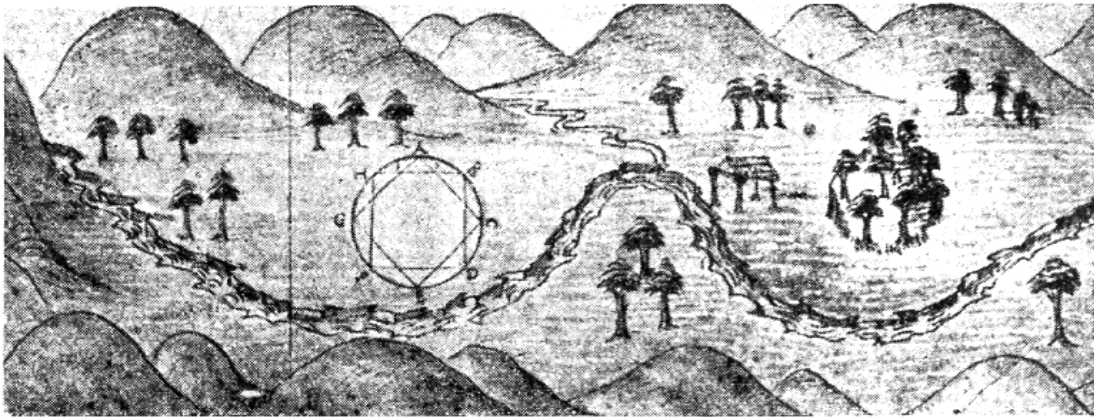


Figure 2.8 Sforzinda (from Lang, 1952, p.95)

The search for the meaning of this geometrical scheme reveals Filarete's interest and understanding of astrology and cosmology.

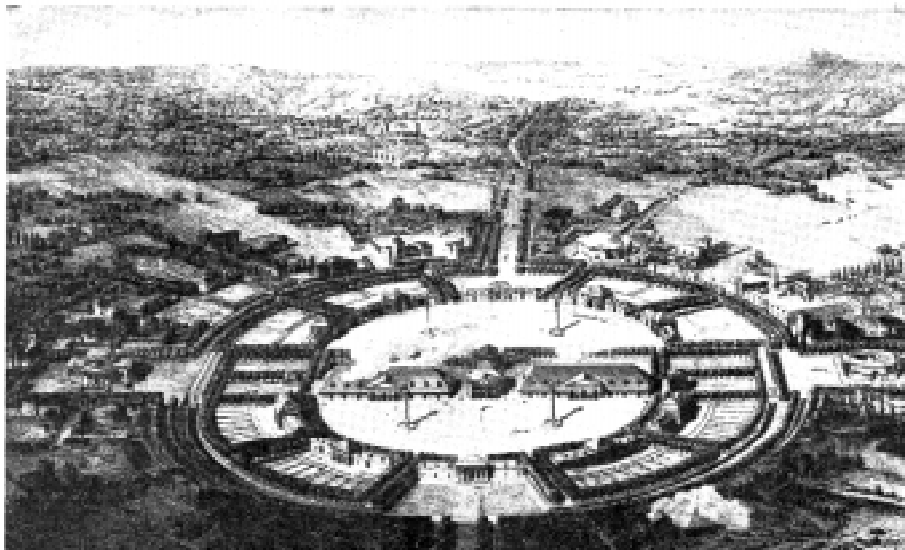
“...In Book I, he (Filarete) assumes in a perfectly matter of fact way that influences of the stars and planets on the talents of men. Then in Book XV, in describing the garden of the prince (Figure 2.7), he says that the square of the inner garden was ‘made into a circle.’ This garden was divided like a map of the earth, and contained high mounds from which all the water in the canals flowed and to which it all returned—a strange image which takes on a new significance when we assume that the canal stand for the veins and arteries of man with the universe (in this case represented microcosmically) which played so large a part in medieval and Renaissance thought.” (Lang, 1952, p95)

Sforzinda is an important model in understanding the development of the ideal city: “Sforzinda introduces several themes which were to be exploited in future ideal cities: First, Sforzinda is the archetype of the humanist city of High Renaissance, where perfect form is the image of a perfect society... the perfect radial city as political diagram become widespread in the 17th and 18th centuries after its brilliant application to the new court city of the French King Louis XIV at Versailles” (Kostof, 1991, p.187-p.189) The other aspect of Sforzinda is premonitory. “The moral tone of Filarete's commentary...lead, beyond the Renaissance, to the geometric social diagrams of the modern period starting with Ledoux's Chaux.” (Kostof, 1991, p.189)

Alberti and Filarete's work and their thoughts about the ideal city address some of the same key elements in Beijing and in the Chinese philosophers' ideal city: the walled

city boundary; the location of important institution – the palace in the city center; and the centralized organization. The three walled layouts are similar to the three walls in Beijing which are the boundaries of the city, the Imperial City and Imperial palace. Alberti’s emphasis on the relationship between the house and city provides another key element to identify the spatial order of Beijing. Overall, through the review of philosophers and architects’ thoughts and work, five physical elements emerge that structured the spatial order of the ideal city in the pre-industrial society: the city boundary, the location of the most important institutions, the spatial organization, the circulation system, and the relationship between house and city. This order brought the astrology, cosmology and social conditions into perfect geometric plan.

The first ideal city that was a product of the Industrial Revolution was Claude Nicolas Ledoux’s Chaux (1775-1780) (Figure 2.9). The Industrial Revolution brought on new social concerns: The horrible congestion of old towns and the plight of the working class. (Kostof, 1991) These concerns were expressed in plans for ideal cities. The ideal city plan no longer related to the symbolism of the State and imperial power, as did the plans of earlier ideal cities. The ideal city of Industrial Revolution would be proposed to improve the life of the workers.



Ledoux

It is Ledoux who destroyed the conception of the city as a physical and political entity. His individualism and his Romanticism were responsible for that. In his ideal city of Chaux—illustrated in 21 from his Architecture of 1804—he also destroyed all visual coherence of town-space, although a centralizing tendency and a patternized plan still remain. The lack of coherence is obvious as is also the conscious and intentional isolation of the single building.

Figure 2.9 Chaux (from Lang, 1952, p.100)

The plan for Chaux is a full oval defined by a tree-lined ring road connected to the center by radiating avenues. A ‘green belt’ of trees replaced the city walls and marked the

city boundary. An ideal industrial community center was located at the center instead of the palace; Although Ledoux did not use a square or circle as the diagram, the radial spatial arrangement and concern for geometric purity is clear in Chaux's plan. The radiating avenues connected the center to the surrounding countryside. Furthermore, the ring road is added, giving an effect of spatial unity and forming the two main circulation systems: the radiating road and the ring roads. These new physical elements defined the spatial order of an ideal industrial town. This spatial order clearly expresses the social hierarchy:

“The half of Chaux that was built gives an idea of the strict hierarchy that was to reign in this model industrial town. There were three classes of population – the officer headed by the governor, the employees in charge of locks and the wood supply and clerical work, and lastly the workers. The governor was in the center of building, along the diameter, which also include a chapel... The half-oval has main gate on axis which grouped about itself the quarters for the guards, a prison and a bakery. To the right were the metal-workers. To the left were carpenters and wheelwrights.” (Kostof, 1991, p.197-p.198)

The inexorable congestion of industrial cities during the 19th century spurred on the new experiments in reformist urban design. Another socialist utopian – Ebenezer Howard (1850-1928) was to “renew its currency with the famous diagram for his ‘garden city’ (1898) (Figure 2.10). His diagram of the Garden City is based on geometry and was to be used as a universal rather than a particular model, since he believed the ‘plan cannot be drawn until site selected’”. (Kostof, 1991)

The diagram of Howard's ‘garden city’ was a creative reaction against the squalor engendered by the Industrial Revolution. In the garden city diagram, six magnificent boulevards separated the Central City into wards, and converged at a five-acre garden which was surrounded by the most important public buildings –the town hall, museum, theater, hospital, library, and concert hall. The six radiating boulevards and ring roads around the central city formed the city's circulation system.

Ebenzer Howard, Diagram of a Garden City. From *Garden Cities of Tomorrow*, London 1902.



Figure 2.10 Garden Cities of Tomorrow

After the Industry Revolution, the five physical elements which structured the spatial order of the ideal city had changed: in Chaux, a green belt of trees replaced the walled boundary, in the “garden city”, the main line railway marked the boundary. The centered institutions changed from the palace, cathedral or temple to public buildings such as the community center, town hall. The new ideal cities kept the centralized organization, but the nesting of walled boundaries was gone. Ring roads were added into the plan, which along with the radiating roads, formed the main circulation systems.

The Howard’s garden city was the last of the great nineteenth-century diagrams which reflect the life of common people. The garden city plan provided a socialist city diagram, this diagram closely related to a new social order, and a new type of man and civilization. Howard’s garden city concept was adapted later by those designers who were influenced by functionalism, but functionalism would greatly change the plan of ideal cities.

Functionalism

European functionalism was connected with the international socialist movement. The major political tendencies of 1920s were internationalism, socialism, and communism, all in sympathy with functionalist ideology. Progressive forces that emerged after the First World War tried to transform Europe into a unified and modified political and social community. Most European functionalist architects were involved in left-wing

politics or participated in the activities of democratic, socialist, and communist forces. Functionalism served as “powerful international architectonic symbols of such sociopolitical beliefs.” (Lesnikowski, 1996)

Functionalism originated as a program of some idealists in Germany, Australia, the Netherlands, and France during 1920s, Walter Gropius, De Stijl, Ludwig Hiberseimer, Le Corbusier are all in the group of functionalist architects. “Functionalism is a program based on ideals of pure forms and unbounded, democratic, or flowing space.” (Trancik, 1986, p.21)

“Many spectacular achievements of industrial architecture in late nineteenth and early twentieth century such as long-span constructions, and some factors such as structural lightness, new building materials, and planning flexibility led modern architects to reevaluate their approach to design.” Moreover, “the requirements of modern hygiene associated with combating rampant diseases such as tuberculosis introduced spaciousness, good ventilation, sanitary facilities, clean surfaces, and easy access to sunlight and greenery. New types of buildings emerged from health concerns, empowering functionally oriented architecture.” (Lesnikowski, 1996, p.15)

Glassed high-rise architecture, which originated at the beginning of this century, derived from both of the technology development and functional requirement, “as well as from the desire to cultivate a spirit of openness.” (Lesnikowski, 1996, p.15) Therefore the new ideology which expressed in functionalism is to provide better housing for working people reaction to the crowded and unhealthy living conditions of the industrial cities.

In the triumph of functionalism, regionalism and environmental identity were ignored, and an “International Style” developed. The very term “International Style” suggested that “buildings in the Nubian Desert in Susan and Northern Canada had much in Common.” (Safdie, 1981, p65) Population density was increased by adding more stories in these “international style” buildings. But the traditional human scale and local culture were lost in the high-rise buildings.

Combining modern technology and a functional approach was seen as the best solution for planning a contemporary city. The famous French architect – Le Corbusier (1887-1965) dominated modern architecture in the period from 1920 to 1960. In 1922, he

exhibited a model and some drawings at the Salon d'Automne. He called the project 'A Contemporary City for Three Million Inhabitants' (Figure 2.11, 2.12)

*Le Corbusier.
Ville Contemporaine. 1922.
Perspective.
Le Corbusier's advocacy of vertical towers with low ground coverage has had a profound influence on modern urban design. Like Hilberseimer, he was fascinated by the idea of segregated traffic systems and with the emerging transportation technologies of the twentieth century. Ville Contemporaine is predecessor to Plan Voisin and La Ville Radieuse. (Courtesy: Fondation Le Corbusier/ SPADEM)*

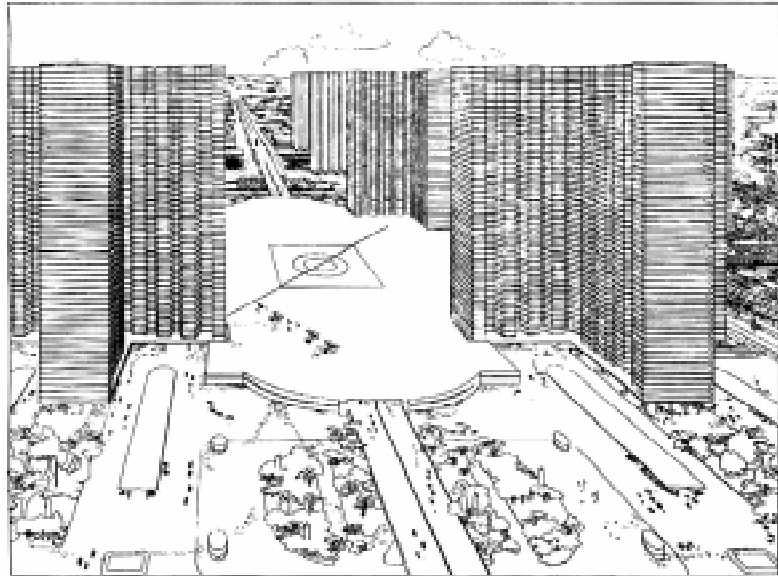


Figure 2.11 A Contemporary City for Three Million Inhabitants

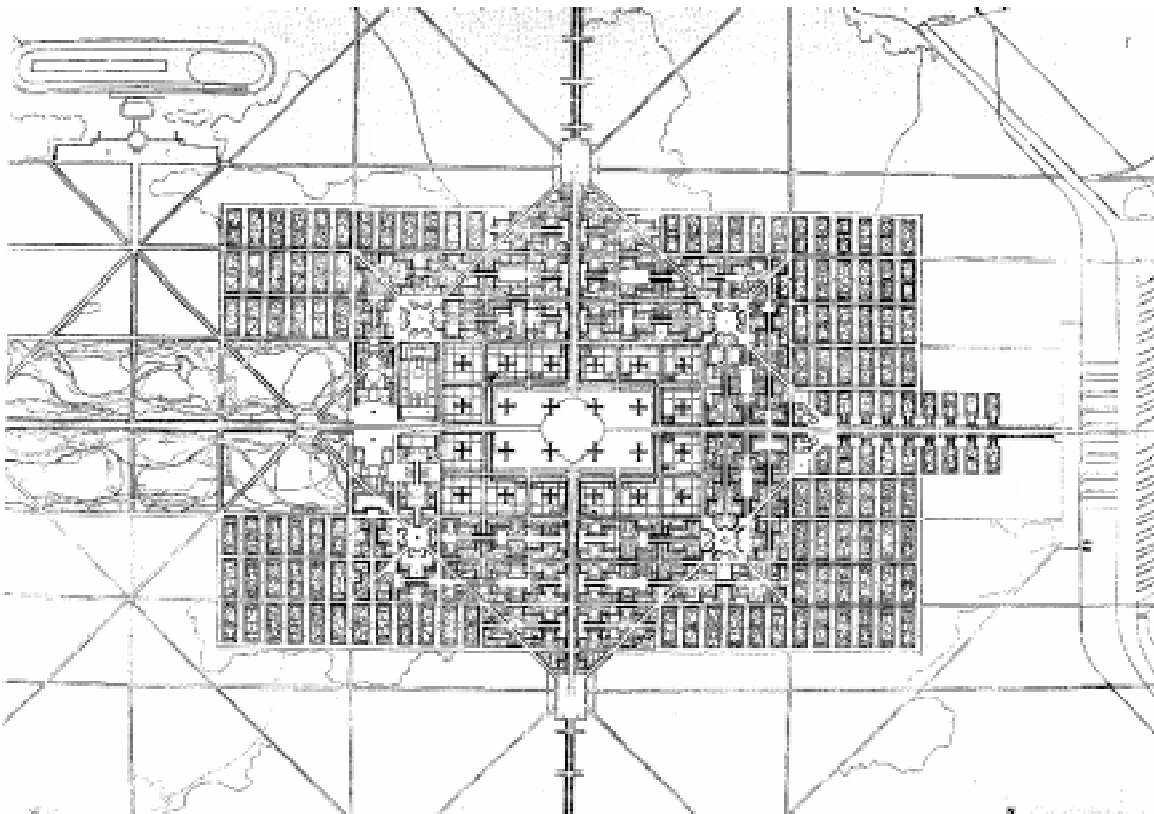


Figure 2.12 A Contemporary City for Three Million Inhabitants (from Curtis, 1986, p.62)

The old physical elements that structured the ideal city were totally changed in this plan, the city has no clear boundary. At the center of the city space, you did not find a temple or civic monument, but a seven-level transport terminal including railways, roads, subways and an airport on the top. This 'center' was surrounded by 24 glass skyscrapers over 800 feet high. Each skyscraper was cruciform in plan and lined up to make a monumental ensemble. Directions of roads are sent out towards the compass points, while people, ideas, services, goods, and money converge on the central terminus. (Curtis, 1986) Although this plan still remained centrality-radial geometric in form, circulation is the most important element in the plan. Other new elements impacted the spatial order of Corbusier's city. This new contemporary city expressed the social order of an industrial town: management, manufacturing, transport, habitation and leisure. Each function was placed in its own zone (functional zoning). For example, the factories were placed down-wind. Population density was generated by building upward using steel, concrete and massing-production techniques. The traditional human scale was lost in these buildings. The spaces left between the buildings were devoted to unimpeded traffic and vast parks. The Ville Contemporaine drawing showed glass skyscrapers and medium-height apartment buildings rising out of the ground.

The spatial order of Ville Contemporaine also expresses the social background of the city. "The elite 'brains of the city' – philosophers, artists, businessmen and technocrats – work high in the skyscrapers, surveying the theater of daily life around them. In the distance, beyond the fields, ...and workers' Garden Cities. Although the workers are banished from the white-collar paradise, there is no class conflict, for each worker has a decent family house with a garden." (Curtis, 1986, p. 63) This is the new industrial city's plan, a city for the celebration of secular life.

Although no real socialist country was established in Western Europe, the situation in the Soviet Union in the days following the October revolution was totally different. In October 1917, a new society was being born in Russia, the first country in the world based on a socialist belief. The old order had collapsed, and the city of the future that the Russian architects were challenged to build was not just a product of technology and the spirit of rationalization, but the product of a new socialist society that

had overthrown the old order. For the Soviet architects, “it was clear that modern and functionalist architecture was the architecture of socialism, to be an architect, to make architecture, was for them to make their individual contribution to the realization of a policy whose aim was the radical transformation of both society and the way of life that is its expression.” (Kopp, 1970, p.5)

Figure 2.13, 2.14 show the perspective and overall plan of the proposed continuous park of culture and rest around Moscow in 1926. This park marked the city boundary, The area around the central city was to be divided into three consecutive green belts with different functions: the first was cultural and sports facility greenbelt serving the city center, with the sports center to be laid out at the foot of Lenin Hills (Figure 2.13). The second was the walking and study greenbelt, the third greenbelt was the industrial and agricultural greenbelt at the city perimeter. All new construction was to be moved out of the center of the city, and Moscow became an enormous garden of culture and rest, upon which the pathways of the new “socialist resettlement” would converge. Moscow, finally, was to be a huge park containing only indispensable cultural and administrative facilities and a sort of museum of the city consisting of the most characteristic neighborhood and monuments (functional zoning). The distinction between city and country was abolished, strings of small houses were built in natural surrounding at a sufficient distance from the highways. These houses were raised above the ground, and secondary roads connected them with the highways. (Figure 2.15) (Kopp, 1970) Radiating highways connecting the town and countryside and ring road formed the circulation systems. The most important institution – the freedom obelisk, was erected in 1923 on the Square of the Soviet, the center of the city.

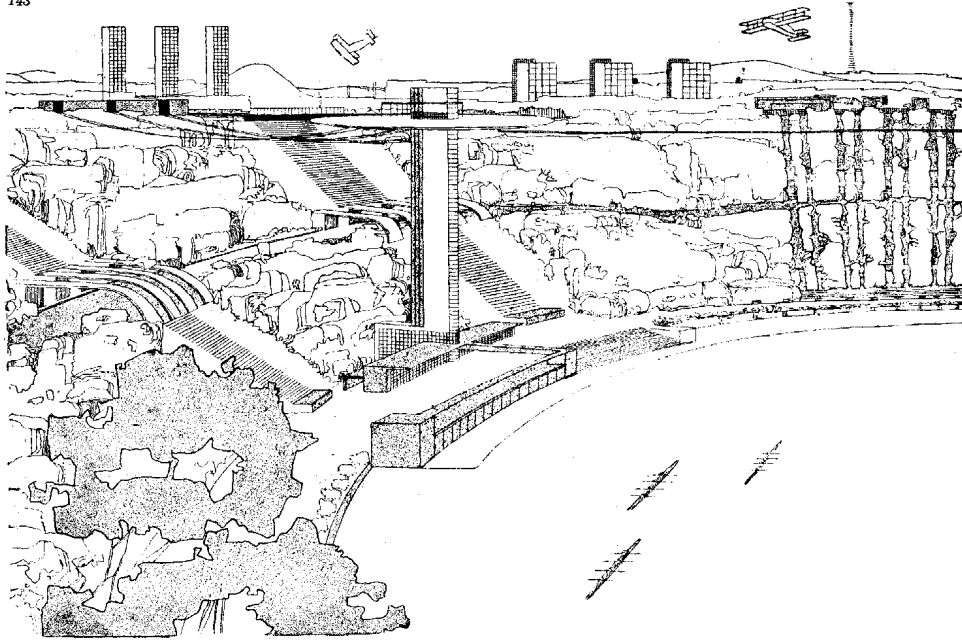


Figure 2.13 Moscow Continuous Park of Culture and Rest (from Kopp,1970,p.143)

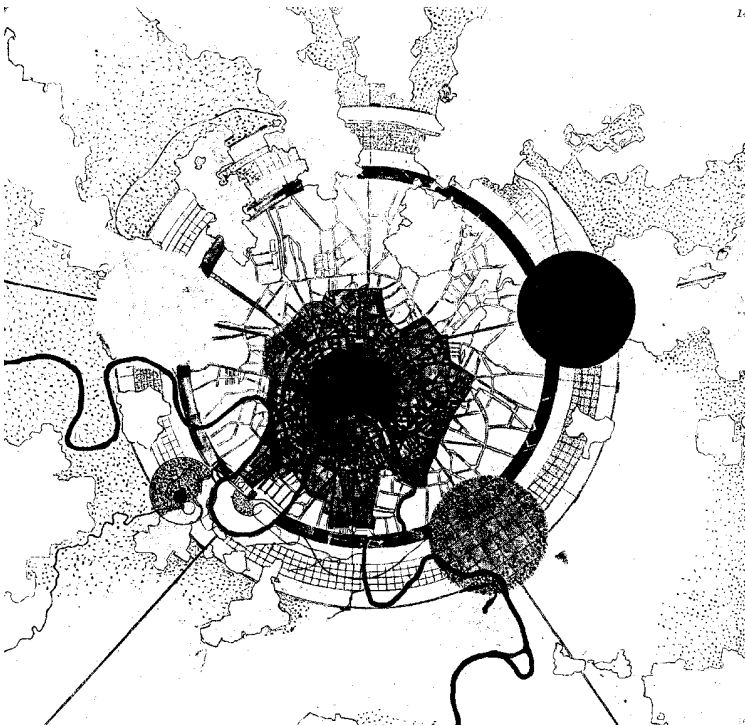


Figure 2.14 Moscow Continuous Park of Culture and Rest (from Kopp,1970, p.144)

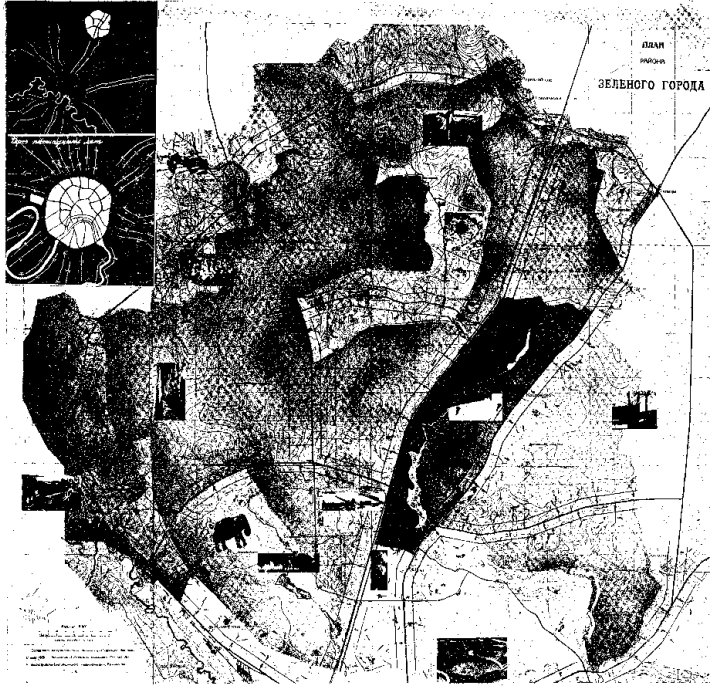


Figure 2.15 Plan of Moscow (from Kopp, 1970, p.174)

This new socialist city reflects the transformation to a socialist way of life. The city is the place for people. The “three green belt” arrangement for the continuous park made it necessary for commuting workers to cross the zone of culture and rest. Roads were built to link all the scattered workers’ house to the city center and a series of buildings , such as the worker’s club (Figure 2.16, 2.17) were erected for the needs of workers.

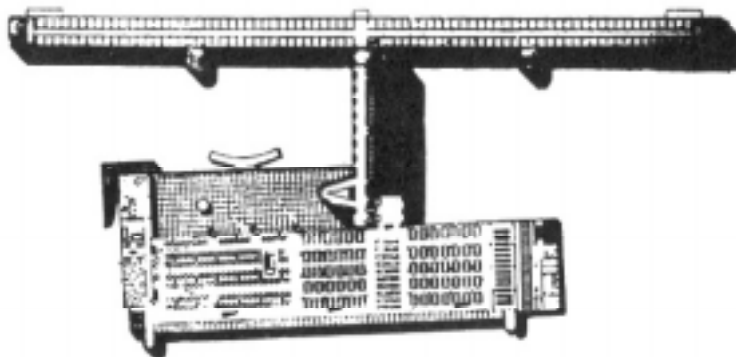


Figure 2.16 Nikolayev: Student hostel, Moscow, 1930 (from Kopp, 1970, p.108)



Figure 2.17 Nikolayev: Student hostel, Moscow, 1930 (from Kopp, 1970, p.108)

Corbusier's Ville Contemporaine and Moscow provided models of the new contemporary cities which were influenced by functionalism. The spatial order of the city changed for utilitarian reasons. The city was divided by functional zoning and no clear boundary existed between city and countryside. Population density was increased by international style high-rise buildings; traditional human scale was totally lost in these "international style" buildings. Although a geometric spatial pattern was used, circulation determined the geometry, ring roads and radiating roads formed the main circulation system. Because functionalism was directly connected with the socialist ideology that new city glorified the power of working people, housing was a common focus in functionalism. The intention of the new high-rise housing was to provide better housing for workers, in reaction to the crowded and unhealthy living conditions. The changes of elements that structured the city in Moscow greatly influenced the reconstruction after 1949 of the socialist contemporary capital of Beijing, the detail discussion of these changes to Beijing will continue in the next two chapters.

The interdependence of abstract thought and the practical requirements of the ideal city both directly and indirectly related with social conditions. When the social

conditions changed, the plan of ideal city changed over time in response to those social conditions. Through the review of several stages of ideal city development from two perspectives – the physical elements which defined the spatial order and the sociological and ideological relationship of the order, we can understand the physical elements that define the spatial order of the ideal city, including the city boundary, the important institutions, the spatial organization, the circulation systems, and the relationship between the house and city plan. We can also demonstrate that the perfect geometric form is the image of the perfect society, engenders a feeling of harmony, and is closely related to people's ideology. The order of the earliest ideal cities had a sacred dimension and displayed a microcosmic heaven. "The motive of designing many ideal cities was to recreate on earth the design of the universe, to use the urban plan as an intermediary between earth and heaven", (Kostof, 1991, p.164) So, the urban plan reflected the cosmology. Beijing was planned as the imperial ideal city in pre-industrial Chinese society. Five elements defined its spatial order, and this order brought cosmology and imperial power into a perfect geometric city plan.

During the Industrial Revolution, the plan of the ideal city changed to the secular or socialist diagram, and reflected the life of workers. The earlier city boundary was replaced by a 'green belt' or ring road; important institutions such as the industrial community center, the town hall, and the museum replaced the imperial palace at the center of the city; ring roads and radiating avenues formed the circulation system. Functionalism, as a design approach, greatly impacted the transformation of ideal city. The ideology under the new international style housing was to improve the crowded and unhealthy living conditions and provide better housing for workers in the industrial society. Some new functional elements redefined the spatial order just for utilitarian purposes: the functional zoning, the "international style" high-rise buildings which increase the population density; the loss of traditional human scale in these "international style" buildings; the lack of clear boundary between city and countryside, and the new circulation system which determined the geometry of the city plan.

With the changes to the social system introduced in 1949 by Mao Zedong, Beijing began to be transformed to a socialist capital in the twentieth century. The traditional spatial order of the city also changed: the city walls were demolished, the city was

divided by the functional zoning. The most important institution – the imperial palace became a public museum, a new center of the city – Tiananmen Square was reconstructed for ceremonial purposes and to celebrate the achievements of socialist construction. The traditional nesting of enclosures was gone, the west-east Changan Boulevard formed a counter-axis to the primary north-south axis; the ring roads and radiating roads were added outside the traditional checkerboard pattern, and became the most visible factors in the plan. The similarity between the old courtyard house and city was gone, the new international style apartment emerged with its increases in the population density. The imperial ideal city was transformed to a contemporary socialist capital. The next two chapters analyze that transformation process.