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**Macro Cosmological Planning Concepts of
Ming Beijing City**

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Macro Cosmological Planning Concepts of Ming Beijing City

Chen Chunhong

Abstract

Beijing City as the capital of the last several dynasties in ancient China played an important role in the history of the world. It was planned and constructed in the early Ming Dynasty. Many people know that the planning of Beijing City was linked with the Cosmic, but the relationship between them was rarely understandable. The Article starts by researching the historical background of Beijing City, referring to ancient documents and comparing star maps, it discusses the theoretical aspects of the Beijing City on how to connect the universe from the perspective of a large spatial planning, analyzes the ways of the Beijing cosmological construction site chosen, the astronomical symbols, universal central axis utilization of urban space planning and so forth.

Keywords: Beijing City, constellation, cosmology, symbolism

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Introduction

Beijing City, was once the capital of the last five dynasties including Liao(辽), Jin(金), Yuan(元), Ming(明) and Qing(清), its urban planning and architecture design reflect the highest achievements of the Chinese ancient architectural theories, known as "the greatest individual project of human being." The planning of Beijing City following the cosmological concepts of ancient China, combined the theories of Feng Shui, geography, architecture and so forth. Ming Beijing City formerly known as the capital Dadu(大都) of the Yuan dynasty which was built in 1264. The planning of Dadu had referenced Chinese traditional cosmological ideas, which made it to be a grand scale and rigorous system city. Ming Beijing City was rebuilt and planned by the Emperor Yongle (Zhu Di朱棣). The original planning of the city abided by cosmological theories, and in the later several centuries of use, its universal concepts were contented improved and continued. Some Ming Books clearly indicate: the planning of Beijing according to the thought of the Heaven and Earth.

According to these theories Yongle made Beijing City to be a part of universe and tried to link each part of it to heavenly stars. In ancient China, stars were closely tied to the events within the dynasties. Emperors claimed themselves as the Sons of the Heaven so that they could represent the Heaven to manage the whole country. Most constellations in the sky were connected with the hierarchy on the earth which was seen as a reflection of that in the Heavens. In order to show the public that he was the unique man who got the warrant from Heaven, the emperor would make his capital as a place to connect with Heaven. The same reason fit for Beijing to be planned abided by the cosmological theories which could easily communicate with the Heavens.

In the following the cosmological ideas used in Beijing City urban planning will be introduced.

Forbidden City Imitated Cultural Thought of Three Enclosures

The Forbidden City was the political core of the Beijing City where the Emperor and his family lived. It was so important that all the other parts of Beijing City were laid out as the center of it. In fact, the shape and planning of the Forbidden City imitated the Three Enclosures (三垣) of Heaven.

In the sky, The Polar Star was seen as the Heavenly Emperor who ruled the whole sky because it is located near the celestial pole and never moves. All the other stars look like his courtiers surrounding it. It is so important that every Emperor who lived on the earth tried to link himself with the Polar Star. There are three constellation regions in the sky which relate to the Heavenly Emperor typically as a prototype to be imitated by Earthly emperor on his capital: the Purple Forbidden Enclosure (紫微垣), the Supreme Palace Enclosure (太微垣) and the Heavenly Market Enclosure (天市垣). The Polar

Star is in the center of the Purple Forbidden Enclosure. The Purple Forbidden Enclosure was the symbol of the home of the Heavenly Emperor, the Supreme Palace Enclosure was his office where he dealt with different affairs, and the Heavenly Market Enclosure was the region for his citizens to live and go shopping. All stars and constellations inside the Three Enclosures reflect the organization of the dynastic hierarchy on the earth. For Emperor Yongle, he would love to try to make Beijing City look the same as the Three Enclosures so that his capital could be thought as a city which was made by the Heavens.

The planning of Beijing City followed the organization of Three Enclosures. The Forbidden City was organized by the images of the Purple Forbidden Enclosure and the Supreme Palace Enclosure. In the Forbidden City, the northern part called harem as a reflection of Purple Forbidden Enclosure was built a lot of palaces for emperors and their families to live and live in; the southern part, called court, were places for emperors and their courtiers to make policies and manage the country, it was a symbolism of the Supreme Palace Enclosure. For the whole Beijing City, its southern part out of the Forbidden City was the region for citizens to live and go shopping where the symbol of the Heavenly Market Enclosure was.

The Three Enclosures in ancient China were very important since each region related to the Emperor Star. Emperor Stars situated in the center of each part and ruled the entire region. The Forbidden City took the same ideas as the Three Enclosures made each part and put the emperor's palace in the center of it. The Three Enclosures were the origins of urban planning to the Forbidden City.

Beijing City Construction Site Chosen according to the Theory of Four Images

Four Images (四象) were very popular and fantastic constellations in ancient China.¹ They were strongly influenced by Chinese traditional urban planning and architecture design.

Before building a city or a house, it was especially important to choose a good construction site so that can bring good luck and longevity to builders themselves. Beijing City would be built as the capital of the Ming dynasty, the Emperor should pay more attention to the site chosen. In order to utilize the new city where the Emperor would live in to show the Emperor's power of the country was warrant by Heaven, the construction site must be chosen carefully and contacted with the Heaven. Four Images and their orientations located in the heavens were the original shapes for a house or a city to choose a construction site. The Beijing City site was abided by the same theory.

Ancient Chinese sky watchers focused their attention on the Pole Star. They divided the heavenly stars for many regions according to their position

¹ Feng Shi. *Archaeoastronomy in China*. Beijing : China Social Sciences Press, 2007.

relative to the Polar Star¹. Four Images(四象)which were the basic and most famous constellations surrounding the Polar Star composed of twenty eight segments called Twenty-Eight lunar Mansions (二十八宿). Twenty-Eight lunar Mansions divided the zodiacal band according to the movement of the moon over a lunar month.² The ancient Chinese thought the Purple Forbidden Enclosure lied in the middle of the sky and was circled by all the other stars. The Twenty-Eight Lunar Mansions were the outer circle protecting the Polar Star. Twenty-Eight Lunar Mansions divided into four groups, each group associated with a compass direction and containing seven mansions. The names and determinative stars were: in the east was Azure Drago (青龙); in the west was White Tiger (白虎); in the south was Vermillion Bird (朱雀); in the north was Black Tortoise (玄武).³⁴

The concepts and theories derived from Polaris and heavenly stars the northern sky deeply affected China's traditional city and house construction site chosen methods. Finally ancient China formed a set of strict theories for people to choose the Geomantic and Treasured Site (风水宝地)⁵. Beijing City was the best example which the construction site was chosen by Feng Shui theory.⁶

In general, the Geomantic and Treasured Site called Ming Tang (明堂) which was an open and large plain surrounded by mountains and rivers. The idealist pattern for the site is: facing south and surrounded by mountains and rivers, the tallest mountains in the north and the rivers in the south. Rivers flow bend from the plain and the mountains in the north look like bend and stretch. The names for the surrounding mountains derived from Four Images, according to the location, they are East Azure Dragon (青龙), West White Tiger (白虎), South Vermillion Bird (朱雀) and North Black Tortoise (玄武). It clearly pointed out the direction characters relate to Four Images in many Chinese ancient documents, such as "Zang Jing (葬经)" said, "The left as the Azure Dragon, the right as the White Tiger, front the Vermillion Bird and back the Black Tortoise".⁷ Sometimes mountains can be replaced by roads, hills and other things. Just like the book "Yang Zhai Shi Shu (阳宅十书)" said, "If a

¹ Needham, J. "Astronomy in Ancient and Medieval China". Philosophical Transactions of the Royal Society of London. Series A, Mathematical and Physical Sciences, Vol. 276, No. 1257, The Place of Astronomy in the Ancient World (May 2, 1974), pp. 67–82. Accessed 9 Oct 2012.

² Yongheng Zhao, Yong Li. . formation and evolution of the Twenty Eight Lunar Masions. Science history of China.2009. 30(1):110-119.

³ The Chinese Sky. International Dunhuang Project. Retrieved 2011-06-25.

⁴ Sun, Xiaochun (1997). Helaine Selin, ed. Encyclopaedia of the History of Science, Technology, and Medicine in Non-Western Cultures. Kluwer Academic Publishers. p. 517. ISBN 0-7923-4066-3. Retrieved 2011-06-25.

⁵ Geomantic and Treasured Site is often a place where surrounding environment considered to fit for the best pattern of Feng Shui.

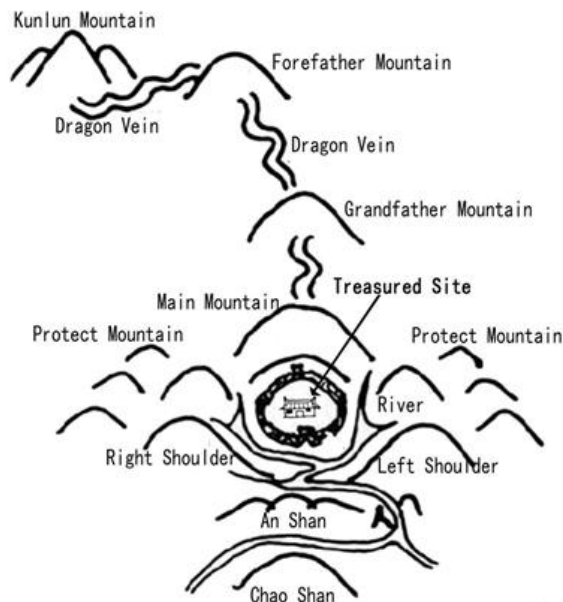
⁶ Bi Xia Chen, Yuei Nakama. A summary of research history on Chinese Feng-shui and application of Feng-shui principles to environmental issues. Kyushu J. For. Res. 2004. 03.

⁷ Guo Pu(郭璞276-324), a famous Feng Shui expert in Eastern Jin dynasty (317-420), his book Zang Jing(葬经) says, "The left as the Azure Dragon, the right as the White Tiger, front the Vermillion Bird and back the Black Tortoise."

river is located on the left of the house it can be called the Azure Dragon; in the right, with a road it can be named the White Tiger; a small pool before the house can be called the Vermillion Bird and if the hills are behind it they should be called the Black Tortoise. The house site must be the best place for human living."¹ Here the left and right mountains were replaced by the road and river while the locations of the Azure Dragon and the White Tiger should never be changed.

We can simply summarize the ideal pattern of the Feng Shui theory, for a good construction site or Ming Tang, it should be: in the left (East) is the Azure Dragon, in the right (West) is White Tiger, in the front (South) is Vermillion Bird and in the back (North) is the Black Tortoise. Azure Dragon, White Tiger, Vermillion Bird and Black Tortoise usually refer to the mountains, in some cases they can be replaced by the rivers, roads, mound and etc. The mountains of Black Tortoise are often several levels: the highest mountain called Forefather Mountain (祖山) is located the most northern and far away from the site, the Grandfather Mountain (少祖山) that is in the middle of the Black Tortoise maintains while the Main Mountain (主山) is in their front. Ming Tang is an opening plain and is located in front of the Black Tortoise mountains, while the Vermillion Bird mountains are in front of it and are often called An Shan (案山) and Chao Shan (朝山). These mountains in the left and right sides of Ming Tang are multiple and are often thought as the Left Azure Dragon and Right White Tiger. (see Figure 1)

Figure 1. Chinese Traditional Feng Shui Ideal Pattern (Drawn according to the Picture of <http://www.dili360.com>)



¹ Quoted from “Yang Zhai Shi Shu 阳宅十书”. Wang Junrong(王君荣), a scholar of Ming dynasty.

Beijing City as a capital must carefully choose its construction site since there would be a large-scale palace and an excellent Geomantic and Treasured Site (风水宝地)¹. Its site was selected by the early Ming dynasty Feng Shui experts following the best ideal pattern of the Feng Shui Theory. The site is located north and faces south, surrounded by mountains in the North, East and West while the South is an opening plain where the rivers and springs converge and flow to the southeast. The Jing Mountain (景山) is the Main Mountain and the Black Tortoise is located in the north of the site, behind it there are several levels of mountains bending and stretching thousands of miles away to the northwest Kunlun Mountain (昆仑山) which is thought as a cultural resource of China; Yan Pier (燕墩) as the symbols of An Shan and Vermilion Bird stays in the south of the site; the Python Mountain (蟒山) symbolizes Azure Dragon is located in the east and the Tiger Mountain (虎峪) likened the White Tiger lies in the west of the plain. Yongding river (永定河) flows from the southern plain and in between Pingtai Mountain (平台山) and Ying Mountain (影山) where the gas is kept inside and never scattered.² It should be a perfect Emperor Mausoleums layout following the ideal pattern of Feng Shui. (Figure 2)

Figure 2. *Cosmological Site of Beijing City*



¹ Geomantic and Treasured Site is often a place where surrounding environment considered to fit for the best pattern of Feng Shui.

² Chiang, Hong-man, Michael; 蔣國文 Fengshui planning and architecture design of Beijing (1412-1911) = Beijing feng shui jian zhu gui hua. PhD thesis of Hong Kong University. 2010.540-549.

For the whole landscape, the Forbidden City was the center and heart of the big city, all the other mountains surrounding it pointed to the center city. This diagram pointing to the center looks like the image of the Polar Star (北极星) that stays in the center of the Heavens surrounded by many celestial stars. The Polaris lived in the center of the northern sky, ancient people thought its location was never fixed and all the stars rotated around him. For this reason ancient people considered it the center of the Heavens then named it the Emperor Star (帝星). Since many stars in the northern sky are around and point to the Polaris, the polar star became a representative of power. The circumstance was the same as the Chinese ancient emperor who surrounded and supported by his courtiers. The Emperor Star was thought as the Emperor in the Heavens who had supreme power and ruled the whole universe. The culture of the Polar Star was linked with the Heavenly Emperor and had a profound impact to Chinese traditional culture, the “Worship Center (中央崇拜)” and “Surround Center (环绕中央)” became philosophical and ritual system themes to the Chinese traditional culture.

The Beijing City site with Four images (四象) and Twenty-Eight Lunar Mansions (二十八星宿) enclosed. In order to conveniently observe the movements of the Sun, the Moon and Five planets (Venus金星, Jupiter木星, Mercury水星, Mars火星, Saturn土星), ancient Chinese chose twenty eight constellations known as the Twenty-Eight lunar Mansions near the ecliptic as flags to identify the Heavenly stars.¹ Twenty-Eight Lunar Mansions are grouped by four parts which are located in eastern, western, southern and northern sky. The Azure Dragon (青龙) occupies the eastern sky and consists of seven constellations which are Horn (角), Neck (亢), Root (氏), Room(房), Heart (心), Tail (尾) and Winnowing basket (箕); the White Tiger (白虎) occupies the western sky and consists of seven constellations which are the Legs (奎), Bond (娄), Stomach (胃), Hairy Head (昴), Net (毕), Turtle Beak (觜) and Join-Three Stars (参); Vermillion Bird (朱雀) occupies the southern sky and the seven constellations called Well (井), Demon (鬼), Willow (柳), Star (星), Growth (张), Wings (翼) and Deep emotion (軫); Black Tortoise (玄武) occupies the southern sky and the seven constellations are named Dipper (斗), Ox (牛), Woman (女), Emptiness (虚), Danger (危), Room (室) and Wall (壁).² Four animals from the composition of the stars above are collectively referred to four images. The ancient Chinese long-term observed Four Images and Twenty-Eight Lunar Mansions to judge the seasons coming and going. Four animals locate in four directions, that is why a common saying Left (East) Azure Dragon, Right (West) White Tiger, Front (South) Vermilion Bird and

¹ Needham, J. "Astronomy in Ancient and Medieval China". *Philosophical Transactions of the Royal Society of London. Series A, Mathematical and Physical Sciences*, Vol. 276, No. 1257, *The Place of Astronomy in the Ancient World* (May 2, 1974), pp. 67–82. Accessed 9 Oct 2012.

² Walters, D. *The Role of the Twenty-eight Xiu in Feng Shui*. Research in Scientific Feng Shui and the Built Environment. University of Hong Kong, 2009.

Back (North) Black Tortoise.¹

Four images and Twenty-Eight Lunar Mansions had a far-reaching affection in Chinese traditional culture. Based on the basic acquirement for observing the movement principles of Four Images, in order to guide their agricultural production, the ancient Chinese established a strong dependence on them. It was so important for the Chinese to find time and identify stars by observing them every day and finally linking them with the Chinese traditional culture, this is the basic origin of Chinese traditional culture.

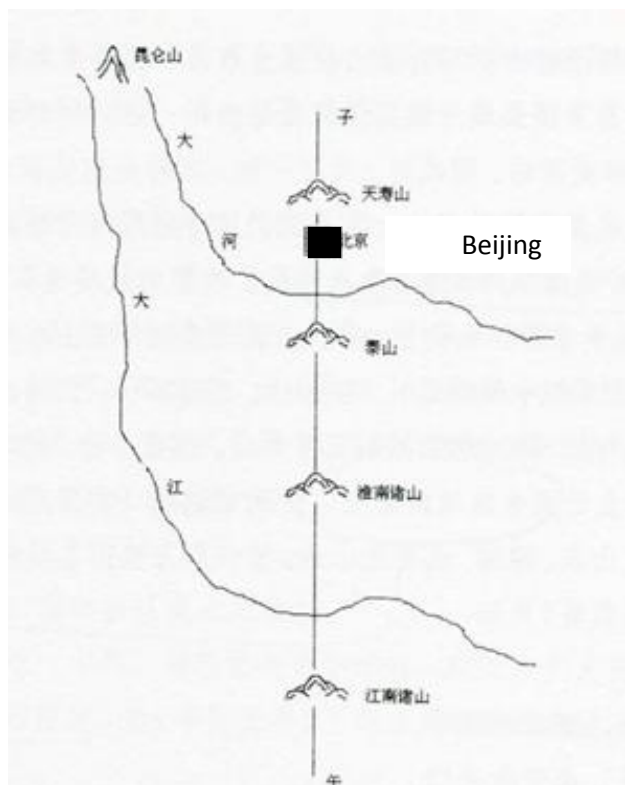
Ancient Chinese believed that the space called Ming Tang was enclosed by Four images and Twenty-Eight Lunar Mansions who as gods protected the Heavenly Palace in the sky, which was the best place for Heavenly Emperor to live in. For the same reason, they thought that the places where look like the same shape as the Ming Tang were extremely perfect for people to live. At last they called it the Geomantic and Treasured Site. In the long history of China society, the concept of the Geomantic and Treasured Site deeply affected many areas of the Chinese cultures. Many Kings and emperors would love to practice the theory in their capitals and mausoleum construction, most of imperial palaces and tombs in the choice of the building site were based on the layout of this theory. This was the reason for Beijing city to be located there. From this we can find out that the Heavens area where enclosed with Four images, Twenty-Eight Lunar Mansions and Ming Tang are the imitation prototype of Beijing City site.

Central Axis and Midday Sun

Many people know that the Beijing City has a north-south Central Axis where the most important buildings were located on. The axis reaches up to 15 km and now is the longest urban axis in the world. It is noteworthy that it was at the "center of the earth" in the axis composed by the great mountains in the east area of China. The Beijing central axis was the miniature of this ideal relationship which revealed the traditional concept of the harmony between Heaven (god's world) and the human being's world. In Song dynasty (14th century), the great philosopher Zhu Xi (朱熹) proposed a central axis of China which came across the east part of the country. The axis started from the Tianshou Mountain(天寿山) in the north and ended at the mountains in south east area. (Figure 3) The ancient Chinese considered the "South" as the most honorable direction and built a strict "Facing South坐北朝南" system which strongly influenced the pattern of Feng Shui that made the buildings to face south.

¹ Sun, Xiaochun (1997). Helaine Selin, ed. *Encyclopaedia of the History of Science, Technology, and Medicine in Non-Western Cultures*. Kluwer Academic Publishers. p. 517. ISBN 0-7923-4066-3. Retrieved 2011-06-25.

Figure 3. *Beijing City locates in the Axis which Proposed by Zhu Xi in Song Dynasty*



The formation of the "Facing South" system was inseparable from the development of Chinese astronomy. In early China people could easily identify the right direction and the exact time by observing the shadow movements of a benchmarking, based on this they established astronomical calendars. From the traditional method people can acquire accurate north from the shadow of a midday sun. "Midday Sun日中之阳" was either used to determine the exact time and north or on behalf of the maximum energy of a day. For this reason the "Midday Sun" became a symbol of power and strength. Since the "Midday Sun" is in the south of the sky, the "South" became the most distinguished direction in ancient China.

After the South became the most important direction, it should be a natural thing for the "Respect South面南而尊" and "Facing South坐北朝南" to follow it as culture extension. The two cultures directly affected Chinese ancient buildings to facing south. For the idealist pattern of Feng Shui, it seems to be able to understand that its layout in the end became "Facing South".

Conclusions

Based on the above analysis, we know that the planning of Beijing City was connected with the theories of Heaven which put Beijing City into a huge cosmic space. We can summary its macro planning results as follows:

- (1) The Forbidden City as the center of the Beijing City was added many cosmological cultural significance, it was a symbol to the Heavenly Palace. The Qianqing Palace (乾清宫), a building to provide a residence for an Emperor, was given several important symbolisms, one of the most significant meaning was a representative to the Polar Star. The northern part of the Forbidden City was linked with the Purple Forbidden Enclosure (紫微垣), the southern part of it connected the Supreme Palace Enclosure (太微垣). Except for that, the southern part of the Beijing City where out of the Forbidden City was designed according to the arranging of the Heavenly Market Enclosure (天市垣). They all imitated the Three Enclosures organization of the Heaven.
- (2) The Beijing City Site was chosen and planned according to the theory of the Four Images (四象). Beijing City was located in the center of the site where called Ming Tang was the Geomantic and Treasured Site. All the mountains surrounded the site imitated the layout of the Four Images. They had the same orientations and names.
- (3) The north-south Central Axis was a universal line to connect the Heaven, the Earth and the Sun. As a universal axis it faced the Midday Sun and had its back to the Polar Star, everything that lived in the world was connected with it.

In short, the layout of Beijing City imitated the celestial body rendering shapes in the sky, the Forbidden City as the heart of the Beijing City and symbolizing the Polar Star; the mountains and water surrounding the city are symbols of Four images and Twenty-Eight Lunar Mansions in the Heaven; the north-south Central Axis is a media to connect the universe, it is a symbol of the Midday Sun.

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