

## **CARTOGRAPHY IN A CHINESE GAZETTEER OF 1268, THE GAZETTEER OF LINAN PREFECTURE**

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**ABSTRACT:** *The Gazetteer of Linan Prefecture (Linan zhi) compiled by Qian Shuiyou in the fourth year of the Xianchun reign of the Song dynasty (A.D. 1268) and printed during the Xianchun reign is a unique geographical resource since very few original prints of Chinese gazetteers produced in this period have survived. 13 maps contained in this gazetteer provide original images of traditional Chinese cartography. This paper examines these maps in detail based on an original wood block-edition of the Xianchun reign, which is housed in The National Library of China. It discusses Chinese cartographic tradition and how the emperor's power is reflected in these maps. The maps in this gazetteer present comprehensive cartographic images of Linan prefecture of the Southern Song dynasty, which was located at the present site of Hangzhou city in southeastern China. The images include those of the compound of the emperor's palaces, the imperial capital, scenic sites, an area along the Zhe River, the compound of the prefectural government, and the territories of Linan prefecture and the counties which were under its administration. All these maps were made using the concept of a flat earth surface, as applied in traditional Chinese cartography. Multiple modes of presentation and a variety of map orientations were used in these maps. By using the techniques of map selection, cartographic design, and symbolization, the emperor's power was also emphasized in the map images.*

### **INTRODUCTION**

As Joseph Needham (1959, 517), a world-renowned scholar in the history of Chinese science, comments, "Anyone at all acquainted with Chinese literature is familiar with the host of 'gazetteers', ... In other literatures there is little comparable to this forest of monuments which the industry of provincial scholars erected over the centuries." Gazetteers appeared in significant number and emerged as a distinct genre in the Song dynasty (A.D. 960-1275). As Zhang Guogan (1962, "Xu," 2), a noted scholar in the studies on Chinese gazetteers, pointed out, "The style of the gazetteers was not completed and standardized until the Song dynasty." The style of the gazetteers which emerged during the Song age continued for about a thousand years and has not experienced major changes since that time.

The Chinese term *fangzhi* is translated in English as gazetteer. *Fangzhi* in Chinese culture refers to a comprehensive record of a certain geographical

area, feature, or institution, such as an administrative division, mountain, river, lake, city, temple or academy.

Although different types of *fangzhi* may have different focuses, in general, their contents cover the following facts related to the geographical area, feature, or institution. These facts include administrative divisions, official ranks, governmental buildings, military defense, water conservancy, schools, feudal land tax and corvee (an obligation imposed on inhabitants of a district to perform unpaid labor services), products, cities, townships, population, custom (a group pattern of local habitual activity transmitted from one generation to another), notable people, scenic and historical sites, bridges, temples, mountains, mountain passes, rivers, lakes, literature, and natural disasters. Such gazetteers may include historical as well as contemporary information.

*The Gazetteer of Linan Prefecture (Linan zhi) compiled by Qian Shuiyou in the fourth year of the Xianchun reign of the Song dynasty (1268) and printed during the Xianchun reign, is a highly valued object for both research and collection in Chinese studies, since very few originals of the Song gazetteers have survived.*

Table 1. Maps in *The Gazetteer of Linan Prefecture*

Number	Original map titles	Translation
1	Huang cheng tu	The Map of the Compound of the Emperor's Palaces
2	Jing cheng tu	The Map of the Imperial Capital
3	Xihu tu	The Map of the Western Lake
4	Zhejiang tu	The Map of the Zhe River
5	Fu zhi tu	The Map of the Compound of the Prefectural Government
6	Jiu xian shan chuan zong tu	The General Map of the Mountains and Rivers in the Nine Counties
7	Yuhang xian jing tu	The Map of Yuhang County
8	Linan xian jing tu	The Map of Linan County
9	Yuqian xian jing tu	The Map of Yuqian County
10	Fuyang xian jing tu	The Map of Fuyang County
11	Xincheng xian jing tu	The Map of Xincheng County
12	Yanguan xian jing tu	The Map of Yanguan County
13	Changhua xian jing tu	The Map of Changhua County

Table 2. Map subjects

Map subject	Number of maps
Map of the compound of the emperor's palaces	1
Map of the imperial capital	1
Map of territory of the prefecture	1
Map of territory of the county	7
Map of the compound of the prefectural government	1
Map of scenic spots	1
Map of the area along a river	1

The maps included in this gazetteer provide original images of traditional Chinese cartography of the 13th century. However, no detailed studies have been done on them. This paper examines these maps in detail using an original wood block-edition of the *Xianchun* reign, which is housed in the National Library of China, and discusses Chinese cartographic traditions and how the emperor's power is reflected in these maps.

### MAPS IN THE GAZETTEER OF LINAN PREFECTURE

*The Gazetteer of Linan Prefecture* includes a total of 13 maps. They present comprehensive cartographic images of Linan prefecture of the Southern Song dynasty, which is located at the present site of Hangzhou city in Zhejiang province in southeastern

China. These images include those of the compound of the emperor's palaces, the imperial capital, scenic sites, an area along the Zhe River (a major river crossing in Linan prefecture), the compound of the prefectural government, the territories of Linan prefecture and the counties which were under its administration. The original titles and translations of these 13 maps have been listed in Table 1. The map categories according to their subjects are listed in Table 2.

Linan was the capital of the Southern Song dynasty (A.D. 1127-1279). It was also a heavily populated large commercial center. In the end of the dynasty, the number of households living in Linan prefecture reached around 390,000 and its population reached 1,240,000. The city was crowded with merchants' shops, craftsmen's workshops, and inns. Business and places of entertainment remained active until midnight (Fan, 1978, 377-378).

The maps in *The Gazetteer of Linan Prefecture* are found in two chapters. The first four maps, *The Map of the Compound of the Emperor's Palaces* (*Huang cheng tu*), *The Map of the Imperial Capital* (*Jingcheng tu*), *The Map of the Western Lake* (*Xihu tu*), and *The Map of the Zhe River* (*Zhejiang tu*), are in the beginning of Chapter One, *Records on the Capital* (*Xingzai suolu*). The remaining nine maps, which show the compounds of the prefectural government and territory of the prefecture and counties, are at the beginning of Chapter Sixteen, before the text on territories.

## CHINESE CARTOGRAPHIC TRADITIONS

### The Concept of A Flat Earth Surface

Critical problems in cartography include understanding the shape of the earth surface as well as representing geographical phenomena on flat maps. Ancient Greek cartographers realized that the earth is a spherical body. Based on this concept, they invented map projections and a latitude and longitude system as a way to transfer geographical information from the spherical earth surface to the map plane. However, in Chinese culture, the concept of the spherical earth was not applied to cartography until the end of the Ming dynasty (A.D. 1368-1644). Chinese map making was based on the concept of a flat earth surface. Thus traditional Chinese cartography was not as accurate as a map projection because it did not consider the spherical nature of the earth surface. Nevertheless, because the degree of the curvature in a small area on the earth surface is negligible for some practical purposes, traditional Chinese methods may indeed be precise enough to make a large scale map.

Like other Chinese maps of the period, all 13 maps in *The Gazetteer of Linan Prefecture* were based on the concept of a flat earth surface and did not use a map projection or a latitude and longitude system as applied in western cartography.

### Multiple Modes of Representation

Chinese map makers developed their own

cartographic tradition. In practice, various methods of representation have been used in map making in China, including a proportional grid system, a plane map, and bird's-eye view. Among them, the proportional grid system, which was called *ji li hua fang* in Chinese, has been regarded as the most accurate. In the proportional grid system, geographical phenomena were mapped based on equal squares, each square in the grid representing the same distance on the ground. By using a grid system, Chinese map makers could control the distances and directions of the mapping elements, as well as indicate a map scale. Scale was expressed by the ratio between the length of an edge of each square and the corresponding actual ground distance, such as "the length of the edge of each square represents ten *li*" (one *li* equals to 0.5 kilometers) or "the length of the edge of each square represents one hundred *li*." A good example of a map with the grid system is *The Map of the Tracks of Yu* (*Yi ji tu*), a map carved on a stone in A.D. 1136. It purports to show China at the time of the Song dynasty. Unfortunately, only a few maps with a grid system before the Yuan dynasty (A.D. 1271-1368) exist today. None of the maps in *The Gazetteer of Linan Prefecture* used the grid system.

In general, except for the appearance of a network of squares, the principle of plane map representation is similar to that of a map with a proportional grid system. Based on the same concept of a flat earth surface, the view of a map maker or reader of a plane map is in a vertical angle with the earth surface. All the maps except for *The Map of the Western Lake* in *The Gazetteer of Linan Prefecture* can be classified as plane maps.

In contrast, a map with a bird's-eye view shows the earth surface from above at a certain angle. The elevated vantage point, or perspective center of a map, is consistently maintained. The objects depicted on a map, wherever situated, are seen from a constant angle, somewhat like the variable perspective used in Chinese landscape paintings.

*The Map of the Western Lake* in *The Gazetteer of Linan Prefecture* is a good example of a bird's-eye view map (Figure 1). This map is a detailed bird's-eye view of the Western Lake (*Xihu*, in the present Hangzhou city, Zhejiang province) in Linan prefecture and its surrounding area. The Western Lake is one of the most famous and fabled scenic wonders of China. The title of the map is at the top-right corner. There is



Figure 1 The map of the Western Lake

Table 3. Orientation of the maps

Map title	North at the top	East at the top	West at the top
The Map of the Compound of the Emperor's Palaces			X
The Map of the Imperial Capital			X
The Map of the Western Lake			X
The Map of the Zhe River		X	
The Map of the Compound of the Prefectural Government			X
The General Map of the Mountains and Rivers in the Nine Counties	X		
The Map of Yuhang County	X		
The Map of Linan County	X		
The Map of Yuqian County	X		
The Map of Fuyang County	X		
The Map of Xincheng County	X		
The Map of Yanguan County	X		
The Map of Changhua County	X		
Total	8	1	4

no indication about the orientation of the map. Nevertheless, judging from relationship between the lake and the city of Linan, the capital of the Southern Song dynasty, west is placed at the top of the map. The lake is shown in the center of the map. To its east is the city of Linan. The capital was surrounded by a wall and a mountain, Mount Phoenix (*Fenghuang shan*) which is located southwest of the city. In the southern portion of the capital is the compound of the emperor's palaces. At the southern end of the main street are departments of the central government, such as *San sheng liu bu*. Other features, like the compounds of the prefectural government and the prefectural school as well as streets, are also shown within the city. Besides the features within the capital, other features around the lake are also represented in great detail, including governmental offices, military camps, counties, townships, marketplace, roads, scenic spots, ports, temples, bridges, gardens, pavilions, mountains, caves, ponds, and vegetation. The entire view of the lake was depicted through conventional artistic forms for mountains, groves of trees, buildings, and boats floating on the water, which are similar to those used in Chinese landscape paintings. This map presents both a geographical and artistic view of the lake.

#### Different Map Orientations

The standard practice for map orientation in modern cartography is to place north at the top of a map. However, this was not the case for early cartography, in both the western and eastern worlds. In traditional Chinese cartography, various orientations were applied in map design. The maps in *The Gazetteer of Linan Prefecture* follow with this tradition. Eight maps in this gazetteer place north at the top. They are *The General Map of the Mountains and Rivers in the Nine Counties*, and the seven county maps. These maps clearly label the directions, north, south, east, and west, in the center of four sides of the maps with north at the top. The other five maps do not have any labels to indicate the orientations. Nevertheless, judging from the relative relations of the place names, four of them, *The Map of the Compound of the Emperor's Palaces*, *The Map of the Imperial Capital*, *The Map of the Western Lake*, and *The Map of the Compound of the Prefectural Government*, place west at the top. Only one map, *The Map of the Zhe River* (Figure 2), places east at the top (Table 3).

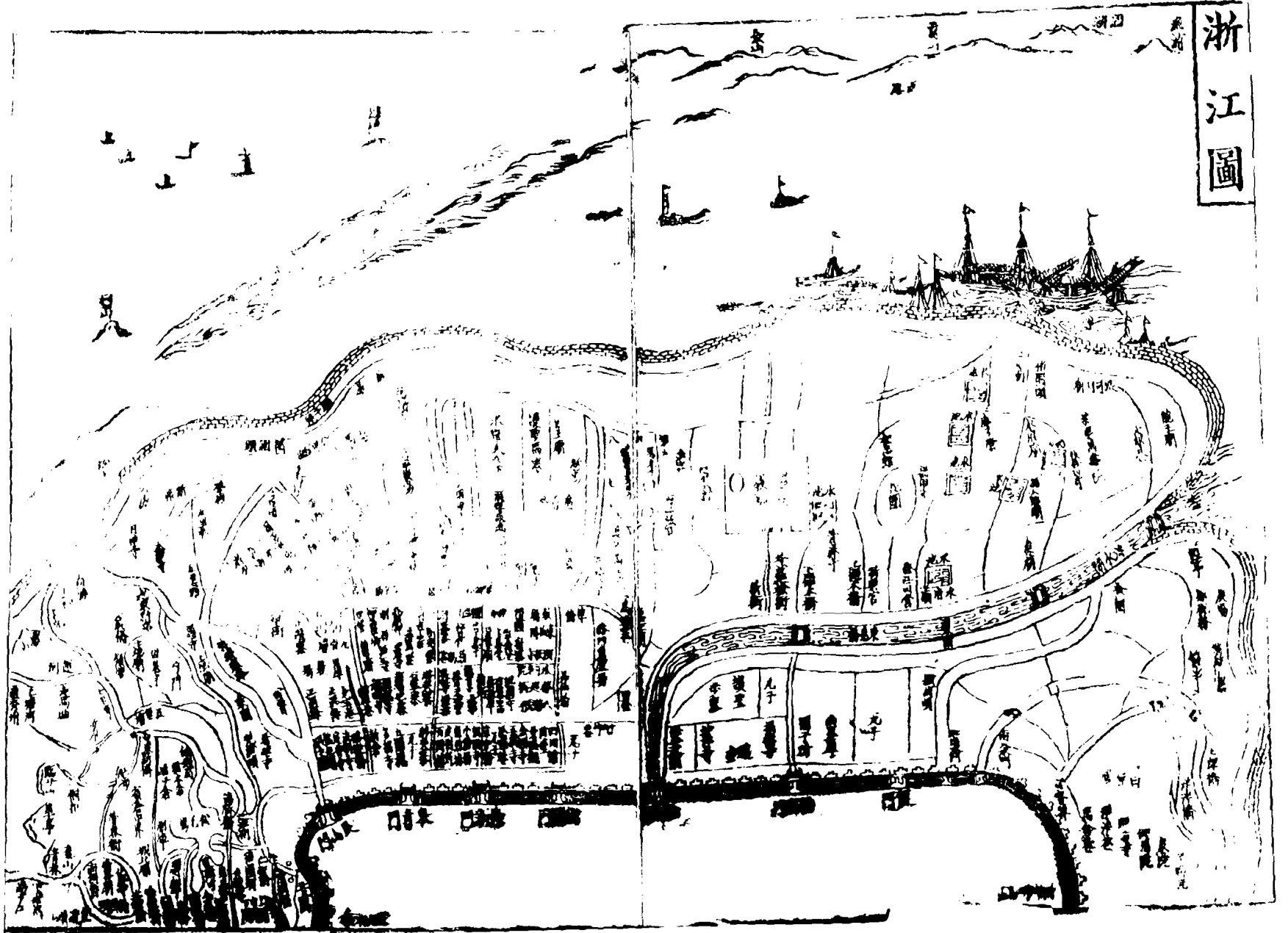


Figure 2 The map of the Zhe River

## **SYMBOLIC REPRESENTATION OF THE EMPEROR'S POWER**

Historians of cartography have recently been investigating the relationships between culture, society, and cartography. Maps not only show the location of phenomena on the earth surface, such as cities, rivers, landforms, but also give specific insight into cultural beliefs and concepts of their time. As Rundstrom (1990, 156) points out, "Maps both reflect and reinforce cultural values and beliefs of the people who make them." Some studies have been done to interpret maps from different cultural traditions (Lewis, 1980; Harley, 1983, 1985, and 1989; Harley and Woodward, 1987, 1992, and 1994; Wood, 1984; Woodward, 1985; Woodward and Lewis, 1998; Rundstrom, 1990 and 1993; Cao et al., 1990; Yee, 1994 a, b; Smith, 1996 and 1998; and Steinhardt, 1990, 1997). The interpretation of early maps should not be separated from their specific cultural context. China was ruled by emperors for thousands of years. The emperor's power was supreme in ancient Chinese society and influenced many aspects of Chinese culture. This influence is also reflected in map making. Displaying the emperor's power is one of the characteristics of the maps in *The Gazetteer of Linan Prefecture*. The first technique served for this purpose is to select maps related to the emperor. What kinds of maps are chosen as illustrations in this gazetteer is an important indication of the mapmaker's intention since a group of maps are included in this gazetteer. The second technique is centrality of imperial authority in the maps themselves, reflecting the concept of the emperor as the center of the social and political system. In addition, the imperial presence in a map image is heightened through various labeling, exaggerations of size, or addition of artistic elements suggesting links with the Heaven.

In *The Gazetteer of Linan Prefecture* the first map is *The Map of the Compound of the Emperor's Palaces* (Figure 3), which directly relates to the emperor. Clearly the initial focus of the map selection in this gazetteer was on the seat of absolute authority. The map shows the southern half of the capital, Linan. The capital was surrounded by a wall. The gates of the city wall are named and pictorially depicted. The main street of the city ran from the Gate of Peace (*Heping men*), the northeastern gate of the

compound of the emperor's palaces, to the Gate to the Heaven (*Chao tian men*) located in the middle of the right side of the map. Along the main street from the Gate of Peace were the imperial agencies, such as *San sheng liu bu*, labeled in large Chinese characters. To the north of these agencies are the name and pictorial representation of the Imperial Ancestral Temple (*Tai miao*). Other features represented by names included the governmental offices, military camps, residential districts, temples, pavilions, and mountains. Some of these features are also depicted pictorially in addition to the labels.

This map provides an excellent example of how the emperor's power was emphasized in the map image through centralizing and heightening the imperial presence in the map by various means of map design. The focus of the map is the compound of the emperor's palaces. The walled compound is placed approximately in the center of the map. Within the compound are pictorial representations of the palaces, vegetation, and hills. In addition, many clouds are drawn around the palaces. These clouds give an impression that the whole compound is in the Heaven instead of on the ground. The symbolic meaning of this representation suggests that the emperor's power is supreme. A place name, the Gate to the Heaven, which is located at the main street of the city toward the compound, emphasizes this suggestion. The meaning and the location of the Gate to the Heaven imply the emperor's power because this gate provides an access to the compound of the emperor's palaces, i.e., "the Heaven." This representation agrees with ancient Chinese tradition which honored the emperor as "the Son of Heaven" (*Tian zi*). In addition, the name of the compound, Great Interior (*Danei*), is labeled in the largest characters in the center of compound. In contrast to the symbolic representation of the compound, the streets around it are simply depicted by straight lines. The meaning of this imagery is clear: the emperor's power is supreme and everyone must obey his authority.

A similar representation also appears on *The Map of the Western Lake*, which also includes the compound of the emperor's palaces. On this map, many clouds are also drawn within the compound as well as along the main street of the city which provided access to the compound. These clouds give the impression of mystery and suggest that access would

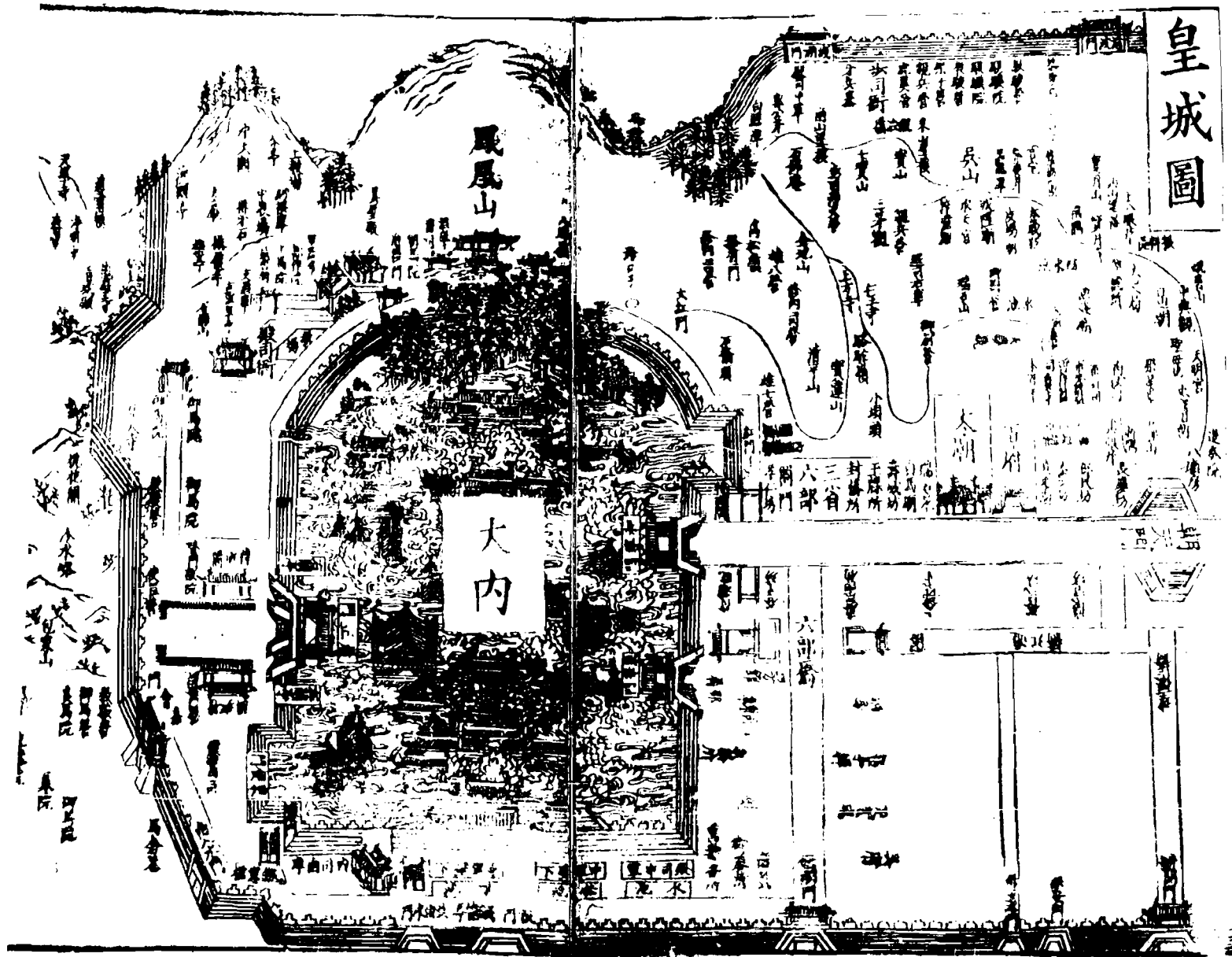


Figure 3 The map of the Compound of the Emperor's Palaces



lead one into the Heaven.

The practice of emphasizing the emperor's power in map images agrees with that of the text in *The Gazetteer of Linan Prefecture*. The texts relating to the emperor are placed in the first part in the gazetteer, reflecting their importance. There is a total of 100 chapters (*juan*) and the first fifteen of them are Records of the Capital (*Xingzai suolu*). They are detailed records of locations, architecture, and events of the emperors' palaces and governmental buildings in the capital.

## CONCLUSION

The 13 maps in *The Gazetteer of Linan Prefecture* are valuable objects for studying the history of Chinese cartography since they provide original images of traditional Chinese cartography from the 13th century. These maps present comprehensive cartographic images of Linan prefecture during the Southern Song dynasty. All these maps were made based on the concept of a flat earth surface. Two kinds of methods of presentation, plane maps and bird's-eye-view, are used on these maps. Three different kinds of orientation, i.e., placing the north, east, or west at the top of a map, appear in these 13 maps. The emperor's power is also emphasized in the map images by using the techniques of map selection, cartographic design, and symbolization. Since few studies have been done on Chinese gazetteer maps, this paper reveals some important characteristics of the gazetteer maps of the period.

The emperor's power as reflected in the map images supports the general notion that maps are not only geographical representations of the spatial world but also can be looked upon as cultural images which reflect the societies in which they are produced. On the one hand, naming and representing a feature on a map does have geographical significance. On the other hand, representations of these geographical features often have social and cultural meanings. From this point of view, the interpretation of maps can go beyond their cartographic content and explore their social and cultural meanings in their specific historical contexts

## ACKNOWLEDGEMENTS

I wish to thank J. Harold Leaman and Keith Henderson for their helpful comments on an early draft of this paper and the National Library of China for their support in collecting the data which have been used in this paper. In addition, I am also grateful to the anonymous reviewers and the editor for their valuable comments on the earlier version of this paper.

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