

The Study of Space Organization and Characteristic on Chinese Traditional Courtyard in Pingyao Ancient City

Jie Gao* · Junhua Zhang** · Takeshi Kinoshita**

*Graduate School of Horticulture Chiba University

**Chiba University Faculty of Horticulture

ABSTRACT

The courtyard life style ever existed as the major traditional living form in wide north China areas. The research made case study and specific analysis on the space organization, constitution and order of the courtyard living, as well as the dwelling accessory manners and transfer space patterns both inside and outside of the courtyard. Pingyao ancient city as the research sample (object), its courtyard composition, classification and characteristic are studied profoundly to explore local traditional cultural traits. On upon the analysis, the research is concluded that the civil courtyard in the ancient Pingyao city bears the feature of in a continuous changing process, which represented as 'from confined to opening', 'from narrow to wide', 'from public to private'. Despite of the courtyard dwelling location and direction, all accessories architectural items on the main room roof were influenced by the geomantic omen culture. As of the inside wall body, entrance and side wall of the courtyard, the woodcraft, stone carving, brick carving on above not only could functioned in architecture artistic, but also express the traditional education spiritual feature.

Key Words: Courtyard, The Ancient Pingyao City, Yard Space, Organization, Characteristics

1. Introduction

1. Background And Purpose

In recent years, the exploration on Ancient Pingyao City of China thrived, on the aspect of international tour upon the world culture heritage. Under this trend, the contradiction between protection and exploration increasingly intensified. To conserve the human culture heritage of ancient architecture and landscape has been commonly deemed as responsibility of all of us. Beside of being the representative of north China, the traditional courtyard of Pingyao carries local traditional culture characteristics.

The existed researches on Ancient Pingyao city concentrated on the aspects as following: status quo investigation, historical culture study, and significance as being world culture heritage, as well as protection and exploration debate (classification and proportion, refer to Figure 1). Outcomes of

existed study shows that Xiaojie Zheng investigated the space organization and the characteristics of courtyard structure¹⁾; Kun Song and Yukun Zhang made a measurement study on civil dwelling courtyard and construction technique²⁾; Huaizhi Lu and Hiroko Tamura analyzed the characteristics of courtyard construction from the aspect of geomantic omen culture^{3,4)}; Jie Gao, Junhua Zhang and Fei Dai made a study of space organization and representation of Chinese etiquette culture in the Ancient Pingyao City⁵⁾. However, the studies related on Pingyao native traditional culture which influenced the courtyard space are still insufficient or need to be developed. The viewpoint of this study focuses on the influence and function to the traditional courtyard pattern, space characteristics and courtyard life form. This article, with references of aforementioned researches, is intended to explore further on the space organization and characteristic which influenced the courtyard space construction features.

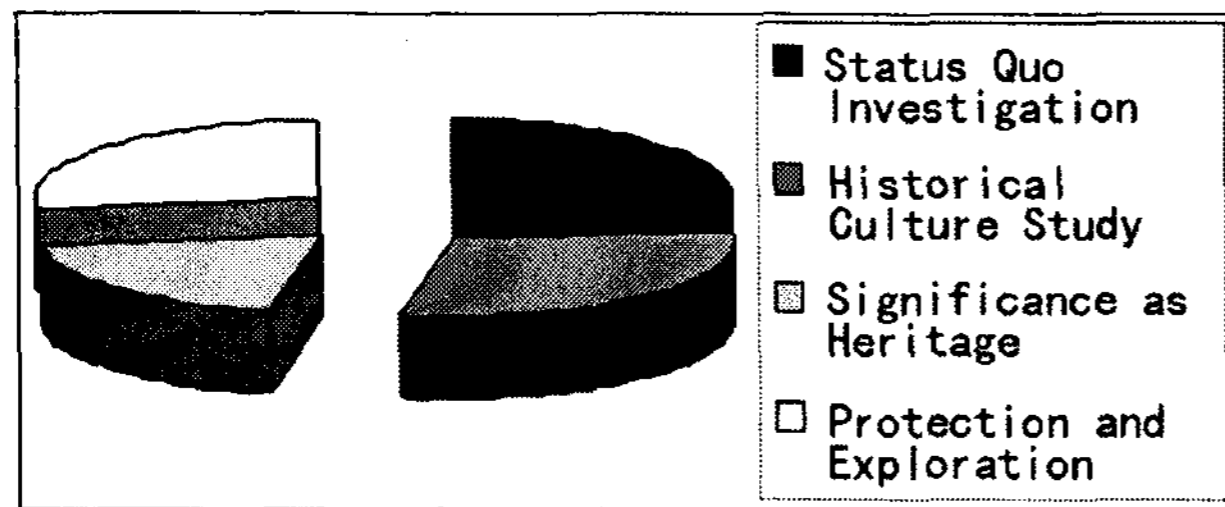


Figure 1. Proportion of Different Study

2. Methodology

1) Literature Investigation

This research mainly referred to papers publicized in professional works, journals and magazines during from 1995 to 2005, as well as other digital data from internet and Chinese digital academic date base. Reference documents such as *The Ancient Pingyao City and Civil Residence*(Kun Song, 2000), *Pingyao County Annals* (Fade Zhang et al, 1999), *The Research on Traditional Pattern of Ancient Pingyao City* (Jingsheng Li, 2000), etc. are the most frequently cited literature references.

2) Field-Course Study

In the period from 25th April to 6th May in 2005, several field course investigations and measurements were carried out in the Ancient Pingyao City. Investigation object is locked on civil dwelling courtyards including areas of Nanda Street, Shaxiang Street, Fanjia Street, Guandimiao Street, Bijingbao Street where dwelling courtyards assembled in denseness. Contents of investigation covered courtyard on-spot survey, inner decoration structure of the yards, along with carving objects in outdoor space. In addition, a face to face interview about dwelling life form by utilizing the local courtyards was carried out simultaneously. Moreover, a visit to Pingyao Cultural Heritage Department was also made to hear the protecting situation of dwelling courtyards.

3) Analyze Method

Based on literature investigations and measurement verifications in the field-course study, the classification abstraction and case-study analysis in this study are concentrated on reviewing living pattern, space layout, organization order, decoration methods and space transitional performance inside and outside of the civil dwelling courtyards in Ancient Pingyao City.

II. General Situations of Civil Dwelling Courtyards in Ancient Pingyao City

The main living house style in Pingyao is Chinese traditional four-section rectangular compound courtyard. Most of them were built during Qing Dynasty or Republic of China period, and few of them were constructed in Ming Dynasty. A great of courtyards in Pingyao are well conserved. The layout and figure shaping of architectures are in diversity and elaborate structures. Especially the architecture details are designed in ingenuity having reached fairly high level. The contracture scale is varied and representation performance is in diversity. Generally speaking, fundamental elements are the gate, Daozuo, centre yard, wing room and main room. As for the large-scale courtyard, several courtyards could be connected with swag door or aisle hall in series. By virtue of multiple combination and arrangement of the fundamental elements, diversiform courtyards finally came into being. Here-after is a sample as a basic type of courtyard to illustrate the general organization form(Figure 2). Here is a simple example

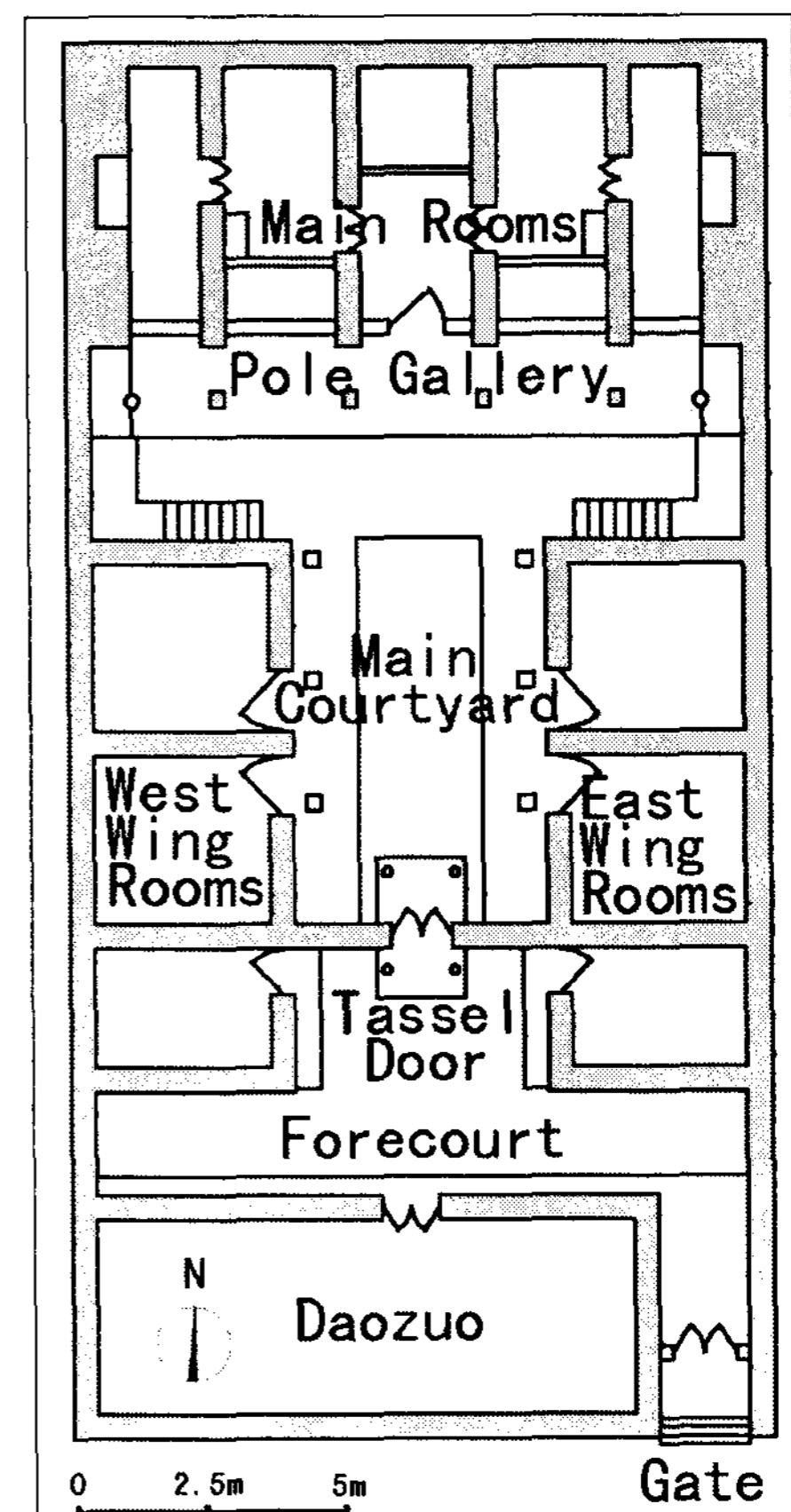


Figure 2. Plan of Fanjia Street No. 2

that of a civil courtyard which dwells on the north and faces to south. The main room faces to the main courtyard, while the two wing-rooms are located on the sides of the main courtyard on the east and the west, as well as the Daozuo is settled on the south of the main courtyard. On such way the main courtyard, which as of out living space, is surrounded by above four dwelling elements. The main courtyard, paved of grey bricks in generally, is in the shape as of 'I'. The central space of main courtyard is in sense of strongly enclosed, and implicates a legible middle axis in arrangement of symmetry. The character of the courtyard space expresses as of introversion to the outer however of extroversion to the inner, which is entirely complies with local traditional culture.

III. Organization Characteristic of Civil Dwelling Courtyards in Ancient Pingyao City

1. Spatial Sequence and Traditional Culture

The civil dwelling courtyard is started from the entrance gate as its space threshold. Along with going into the courtyard, the space unfolds gradually. Notwithstanding the uncomplex space organization, changeful layers make the courtyard space into a transition of from being open to close (Figure 3).

Just as mentioned above, being the threshold of the courtyard space, the gate firstly brings visitors a kind of psychological implying by being of space division. Entering through the gate, on the opposite of the entrance, there is a screen wall with porcelain carving drawing. The screen wall, more than a decoration, brings forth and strengthens visual feelings of space geometric relationships. The narrow space from the gate to the screen wall is the intergraded space connected the courtyard with outside world. The street space scale outside is much larger than the courtyard. However, by the convergence of 'being from the gate to the screen wall', such space change seems not too abrupt and even the space connection becomes very natural. Stepping into the courtyard through connection space, the ray of light changes from dark to bright; the space turns from convergent to spaciousness and from narrow to wide. Out of question, the connection space of the gate and the screen wall is the most important component element from where the spatial sequence changes start. During the process of space transform, there emerges several qualities worth to be mentioned. Firstly, the courtyard is surrounded by dwelling buildings, which is a roofless close

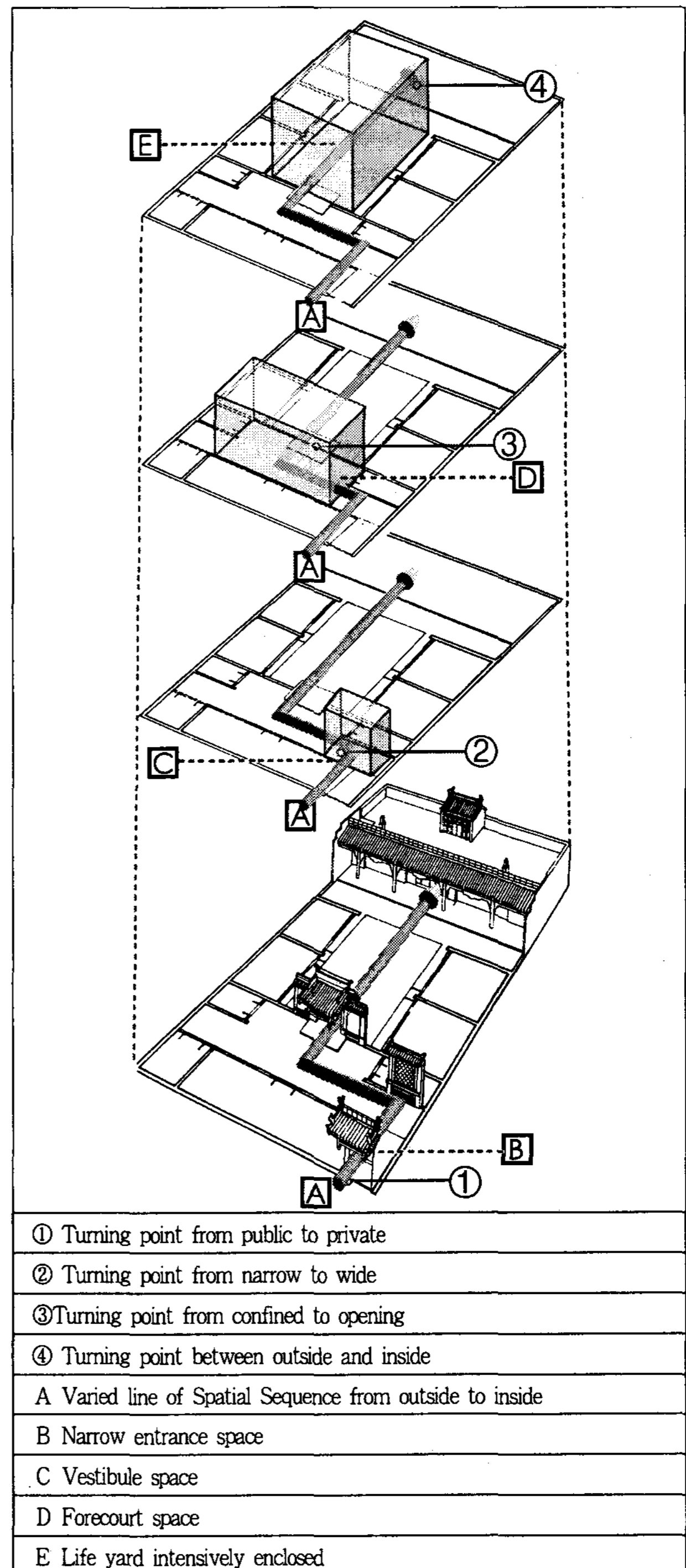


Figure 3. Spatial Sequence Analyze of Courtyard
Refer to Ancient Pingyao City and Folk Residences

space without specific direction inclination. The scale and shape of the yard space can only be shaped by means of buildings surrounded, and with such courtyard form the architectures will express centrality on its space layout. Furthermore, by contrast of scale between the courtyard and buildings, space transformation such as closing and opening,

wide and narrow could be generated. The swag door and the aisle hall are important elements to divide courtyard space. They are connective points where the homogenous space of courtyards varied. In another words, they are on one side the end of a space area, while on the other side the start of a next space area. Thus these different spaces infiltrate into each other. The door of the aisle hall likes a channel to narrow the connective door. It strengthens the space impression of 'from convergent to open', by taking advantage of such decoration. By means of these connections, the space sequence is becoming rich in rhythms. The space layers are getting complex by changing continuously.

The following analysis is on the change from inner yard to inside room space. The widths of from entrance to the innermost room are changing narrowly, while the height of bilateral wing rooms becomes higher and higher gradually. That makes the space more convergence, while the single pitch roofs surrounded strengthen this feeling. The inner yard is a highly private space, because the high buildings increase the close degree. The innermost main rooms are towery and in a great of space volume, so that you have to look up in order to get the panoramas standing in the yard. There is a pole gallery in front of the main room, which is the semi-outdoor space in the courtyard. The height of the pole gallery is in light of people's body size; therefore it is quite compatible for living. The space form hereof is distinct from the close indoor space or the open yard space, for it possesses the characteristic of both spaces. The space under the eaves, an important space in the yard, is a transitional segment connecting the outside and the inside, where they are in the status of interpenetration. On the other hand, pole gallery space abounds in the sunlight impact. The shadow variedness makes the yard full of dynamic and vivid appearance in spatial sequence. By the transform and infiltration on the pole gallery, the space is drawn into an indoor area which is the spiritual core of the whole courtyard as the end of spatial sequence.

The courtyard forms a core cohesion space, surrounded by dwelling components firmly and compactly. Finally the courtyard in the introversion represents a centripetal character, implied in the conscience of every family member as of an instructive instrument being united.

2. Traditional Geomantic Omen Culture in Courtyard of Pingyao

Courtyards in Pingyao are carriers of the historical culture,

and they are full of architecture value, folk-custom studying worth and practical worth. Pingyao courtyards are quite unique among China civil courtyards. Most of them are composed in forms of two or three sections. The encompassed courtyards are usually in the layout of in the length from south to north and in the width from east to west. Such kind of layout is available to defend local weather problems such as sand storm which is of practicality. Also the enclosed central courtyard is in accordance with a local saying of 'fortune gathering' and the common saying 'Xihe' in local⁶⁾.

Once entering a yard from every entrance to an end inside, the trend of height increasing appears. It complies with the rule of 'To be promoted step' in geomantic omen culture. In ancient times the courtyards lived in a master of high social status were always designed to face south. The 'Li Position' at which the gate is settled is the best pattern in the Eight Diagrams of geomantic omen culture (Figure 4). The common people's courtyard gates are generally located in the southeast position. Large courtyards are composed of outer and inner yards. The outer yard is usually narrower than the inner. The total length of the courtyard is 30m commonly. The entrance space to the inner yard is always placed between the east room and the Daozuo. The outer space is to meet visiting guests, to avoid interrupter to the inner living area. That is the main division between the outer and the inner. The drain outlet is set in the right of the courtyard gate, making the water currents flowing from the right to the left, which is also pointed to the east. This is said 'Door Surrounded Current', which means fortune generation. A cellar could not be dug in the large family courtyard, which means 'to avoid air(fortune) loss'. The stone roll can not be

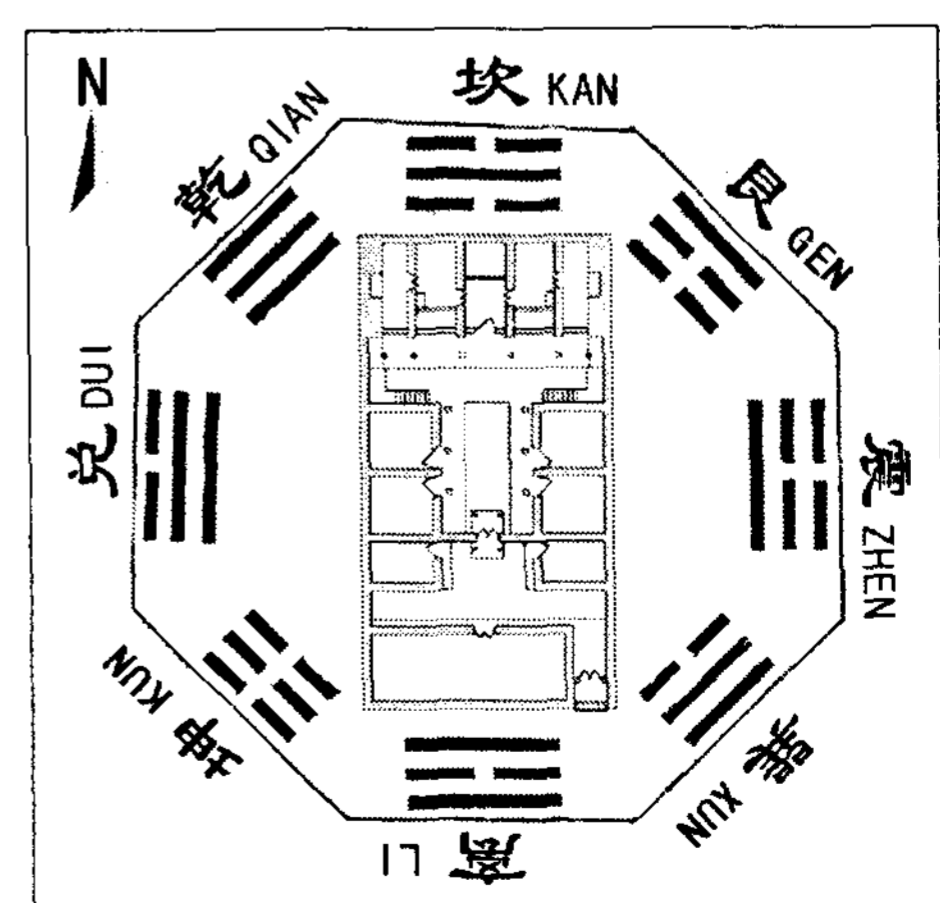


Figure 4. Analysis on Geomantic Omen Culture

placed in the yard either; otherwise it should be placed outside of yard on the position of 'Baihu' according to geomantic omen culture. Such the roll could be used by all of other local people. The 'Kun' position(west position) means the worst in geomantic omen culture, so it is always the place for toilet. There is a Jixing structure on the roof of the main room where Jiangtaigong is living, who is the god-man guarding the whole family in question. The direction of the Jixing structure is decided by the main room location, and it can be placed in the middle or each side.

Geomantic omen structures and the screen wall can be found wherever in Pingyao. They are always built on the roofs of main rooms as talisman structures to bring luck to the family, due to the saying of geomantic omen culture (Figure 5). Despite of occult explanation of geomantic omen culture, the structures enrich the skyline mightily in the view of urban planning. These geomantic omen structures heighten the top of the main room that became competition against neighbors, and it has the function of safe guarding as well as taking the nature nimbus in the courtyard. The structure looks like the head of the main room, and the east and west wing rooms look like the legs, as if a human is embracing the central yard to safeguard the courtyard people. That is the expression of coexistence with humankind and Tian(Gods) under Chinese traditional culture. Geomantic omen structures become the focus of visual field in certain height. Other than the geomantic omen culture meaning it is endowed with, it may also play a very important role in retifying the location of the overall courtyards.

3. Traditional Decoration of the Dwelling Courtyard Space in Ancient Pingyao City

The dwelling courtyards in Ancient Pingyao city express the characteristics of 'Grand from the outside and elegant inside', especially embodied by contrast along with high out-

side walls, yard woodcrafts decorations, stone carvings and brick carving. These decoration handicrafts also reflect great artistic accomplishment and excellent technical level of local craftsmen(Table 1). At the same time, the decoration contents image the regional cultural tradition and characteristic deeply. The Swag Door in the courtyard could be no more regarded as a structure of valuable decorative handicraft. It plays a determinative role on the style and representation of the courtyard. Woodcrafts on the door are elaborated. Even some of them are made into cabinet Dougong, and the others are made into cirrus form. Most of them are allegoric of auspice and happiness. Almost all of timber components bear such floriations. The floriations modality is quite related with the space signification of civil dwelling courtyards; moreover, it displays the family ruling philosophy of the courtyard owner. The inscription on the stele of the main gate, which is particularly elaborated and well handwritten, contains multiple meanings of morality, ethics, life faith or valuation by showing of 'Ningxiu', 'Shude', 'Gunhou', 'Gengdu', 'Xiawei', 'Chongshi', 'Letianlun', 'Shengzuwu' and etc⁷⁾. By such means, the traditional etiquette culture could be spread by a subtle influence. People grew up under such environment could easily edified by accepting the culture.

The civil courtyards, being as the cultural carriers of tradition, certainly reflect the cultural background which they relying on. Besides the derocative items aforementioned, there are also many stone crafts such as the for getting into and out of horse saddle, horse fasten pole, Baogu stone, stone lions, pone base, Shigandang, as well as the stairs and columns reaching to the roof of main room. All above exquisite woodcrafts, stonecavings and brickcavings immit kinds of emotions into the courtyards close space.

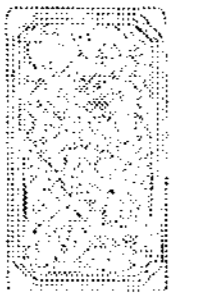
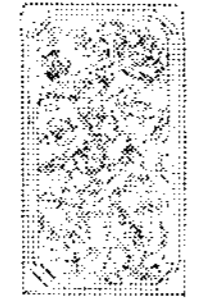

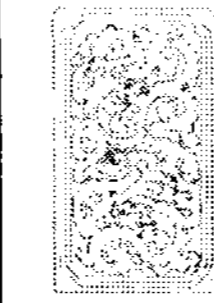

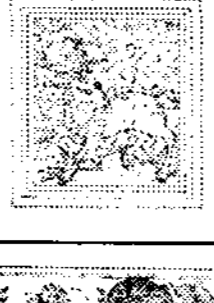

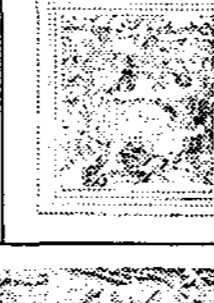



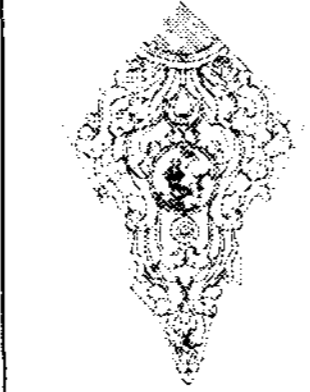
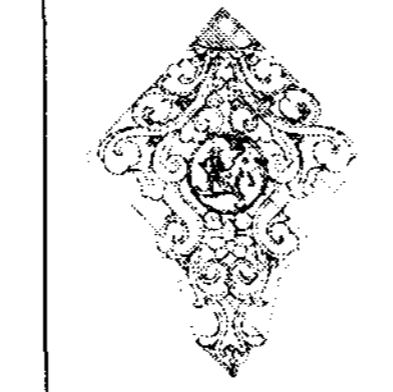
IV. Conclusion

The space layout and organization of traditional dwelling



Figure 5. Geomantic Omen Statement on Roofs of Main Rooms in Pingyao

Table 1. Classification of Carving Decoration in Courtyard of Pingyao

Type	Courtyard Carving Decoration Pattern			
Plants Patten				
Animal Patten				
Literal Legend Patten				
Combination Patten				

Refer to *Ancient Pingyao City and Folk Residences*

courtyards in Ancient Pingyao city not only hears the general characteristics of courtyards in north China, but also bears the

local particularity influenced by traditional culture and regional geography elements, which results in its particularity beyond challenge. The consciousness of separating the outside and inside of courtyards in Pingyao is as obvious as that of being close. Such kind of space layout and organization is so deeply influenced both by Chinese Etiquette culture and geomantic omen. The structure sketch, the stele and sculptures function on decoration, besides effect the domiciled people potentially on psychical cultivation and education.

References

1. Hiroko, T.(2003) The System on Using the Devises for 'Feng-shui' on the Dwellings in Chinese Historical City, *City Planning Review*, v245, a paper of special issue, pp. 25-28.
2. Huaizhi, L.(2004) Geomantic omen and architectural—Take the example of Pingyao ancient town, *Sichuan Architecture*, pp. 37-39.
3. Jie, G., Junhua, Z., Fei, D.(2007) Space Organization and Representation of Chinese Etiquette Culture in the Ancient Pingyao City, *Landscape Research Japan Vol. 70, No. 5*, pp. 385-390.
4. Kun, S.(2000) *Ancient Pingyao City and Folk Residences*, Tianjin University Press, Tianjin.
5. Meiqin, P., Zhiping, G.(2003) Peculiar Aroma and Simple Moral—Tortoise City and Eight Diagram Street of Pingyao, the PLA Literature Publishing House, Shanxi, p. 308.
6. Suping, L. *et al.*(1999) *PingYao County Annals*, Zhong Hua Book Company, Shanxi, p. 1140.
7. Xiaoxie, Z., Zhiyuan, R.(1996) *A Survey of Shanxi Pingyao*, Urban Studies, pp, 16-19.