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Study on the Basic Constitution Form of Shandong Dwellings

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Abstract

With long history and rich connotation, Shandong dwelling is an organic component of Chinese traditional dwelling culture. However, influenced by factors such as geographical conditions, history, culture, manners and customs, Shandong dwellings have their different local cultural characteristics in structural layout, building materials and architectural style. This thesis studies the basic constitutional form of Shandong dwellings. And with rich materials gained from the field study and investigation, it systemizes, analyzes and studies the basic constitutional form of Shandong dwellings from the aspect of the village and message, gate and screen wall, living room and layout. This study is of great realistic significance for studying and protecting Shandong dwelling culture in different historical period.

Key words: Shandong dwellings; Local culture; Dwelling form; Structural layout

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INTRODUCTION

With a vast territory and a huge population, China has complex and changeable geographical environment, colorful vernacular dwellings, local conditions and customs. Like dwelling folk customs in other places, Shandong dwellings reflect Shandong specific geographical environment and local cultural

characteristics. Even Shandong dwellings have different regional disparity from village and message to house and living room. These differences show the diversity of Shandong dwellings. Though dwellings around China have gone through their vicissitudes, the local characteristics of Shandong dwellings are well preserved. We can find their former elegant appearance even till today. We are responsible to study and protect these dwelling cultural heritages with local cultural characteristics in different historic period. And this work is of profound realistic significance of China's economic development and urban-rural integration.

1. VILLAGE AND MESSAGE

1.1 Village

Village names of Shandong always indicate the local customs. If there is family name in a village name, the village is usually a habitation of an extended family (eg. "Xujiadian", "Lijiazhuang"); villages are also named by local residents' vocational characteristic (eg. "Toufuzhang", "Gang'eryaojia"), named by a temple name (eg. "Liudusi", "Wushenmiao") and also named by the name of garrison troops in the old days (eg. "Rushanzhai").

Villages around Shandong are always located in one place. It's rare to see scattered villages. The houses in the village are adjacent with gables. And a street separates these houses in opposite sides. These characteristics make Shandong dwellings in sharp contrast with the scattered layout in the northeast and south of China. There are always big villages with thousands of families in a flat area and important transport corridors of Shandong. Houses around Shandong usually face south and have a road in front of their gate. Big streets in the village usually are in east-west or north-south direction. Wide road is called as "avenue" or "street", while narrow one is called "lane" or "Hutong". However, some regions with

special geographical environment form specific village landscape: Villages in mountain area are well-arranged for the mountain and terrain; villages which are located in islands do not select orientation when building a house. Leaning on the mountain and facing the sea, houses in this area are usually built along with the terrain or the bank for the land in the islands is limited.

1.2 Message

The structural layout Shandong traditional dwellings is always enclosed courtyard house. Layout of courtyard varies from place to place and the courtyard is generally enclosed by the north house, south house, east and west wing rooms. Courtyard house is a “quadrate” shaped message enclosed by the north house, south house, east and west houses. The message is usually rectangle and its central axis is south-west oriented or with slight deviation. The main room in the courtyard has a southern exposure and is usually called as “principal room”, “central room” or “north room”. Room located in the south is known as “opposite room”, “south room” or “guest room”. And rooms located in the east and north sides are called as “wing-room”, “wing house” or “side room”.

Most Shandong dwellings are courtyard house which has a support on its back, that is, the house faces south and flat ground, while its back leans on cliff or highland. Part of dwellings do not have a south house and are simplified into a three-section courtyard house which is known as “Bojizhang” style. Courtyard house can be seen in big and middle cities and lord manor in rural areas. Courtyard house of rich and influential family has two or three courtyards or parallel two or three courtyards with several courtyards in its front or back. Courtyard wall of most Shandong dwelling message extends forward from the gable of principal room and then is enclosed to form a courtyard without back wall. While in the past, dwellings in Jiaodong areas had front and back yards. The local people will reserve some place which is just a few feet wide and then build a back wall to form a narrow backyard.

The spatial pattern of courtyard also varies from place to place. In some affluent areas of Jiaodong, farmers may connect the kitchen with bathroom and then build it in the position of original east wing room. In this case, it not only adds to the function of residence, but also improves the indoor sanitary condition. A pressure well is set in the yard where is close to the house wall; the corner of courtyard is usually used to store firewood and commonly used farm tools as well as raise a few livestock or plant some industrial crops, making the house has certain production function.

Building materials in the courtyard wall are quite different. In its building material, courtyard wall can be divided into slate wall, cob wall, adobe wall, brick wall, stone wall and so on. At present, most places adopt brick wall with stone foundation.

1.3 House

For the disparity of geographical environment and local conditions and customs, style of dwelling houses varies from place to place. Dwellings around Shandong are built according to the local conditions and are in harmony with the local natural environment, forming different local characteristics. And village houses in different places have different names and appearances because of the difference in structural layout, building materials, usage, foundation site selection and other factors.

Most Shandong dwellings are one-story house which was formed by foundation, floor, column, wall, roof, door and window in the past. Shandong dwellings can be mainly divided into tile-roofed house, mud flat-roofed house and thatched cottage by the aspect of building materials. With the sea on three sides and rolling hills, dwellings in Jiaodong peninsula have features of high foundation, low eaves, small rooms and large depth, making this kind of housing not only wind-proof and warm, but also labor and material saving. Its corner, door frame and window frame are constructed with brick and then plastered with lime, making the outer wall of the house bright in color and form delightful contrast with sea and mountain and integrate with the local environment.

2. GATE AND SCREEN WALL

In Shandong dwellings, gate is the entrance of the whole message and is called as “street gate”. It shows the scale, wealth and power of message. And the gate is generally set on the left side of message’s central axis, that is, the southeast of courtyard which faces south. Gate of a few messages may be set on the central axis or the side courtyard wall.

Generally, Gate of Shandong dwelling can be divided into two kinds: One kind is a part of the outer wall and is called as “wall gate”; another kind selects one room with three wing rooms or five principal rooms at a gate. Top of the second kind room is eaves and bottom is foundation, so it is called “house gate” and can be divided into house gate and gate tower, etc..

Local people in the west of Shandong will build gate tower into a small house with little decoration, while most gate towers in the middle and east of Shandong are gate with three wall columns. Its edge of the roof ridge and eaves has delicate and various decorations. A square gate stage with step or without step is often set in front of the gate; the stage is made up of stone. While a screen wall, which is also called as “image screen”, is always set inside the gate and outside the second gate. It is one of the special decorating form of Chinese traditional dwellings as well as an important part of the traditional dwelling culture.

In Shandong dwellings, screen wall is usually set inside the gate and faces the gate of house. It and the gate are a complete and unified form of the dwelling message.

Gate is not only the entrance of message, but also a structure which can protect the building's inner space; screen wall can not only create the space environment, but also enrich the functional partition of the message.

2.1 Gate

The common gate types in Shandong dwellings are hypostyle column gate, Manzi gate, Ruyi gate, Suiqiang Gate, etc. Message gate and its modeling, decorations and patterns show profound folk culture characteristics around Shandong sufficiently. Dwellings around Shandong are constructed according to the local natural environment and customs, thus the gate type varies from place to place, giving full expression to the flexibility and diversity of gate type around Shandong.

(a) Hypostyle column gate. Famous for its door leaf standing between the hypostyle columns, the gate is one of the most common gate forms in Shandong. Hypostyle column gate, which is wide and magnificent, solemn and gorgeous, shows the dignity of government and rich family. This gate adopts flush gable roof and its main ridge and diagonal ridge adopt tile ridge stacked by brick and tile. There are brick-carving roof decorations on the main ridge and diagonal ridge. It is decorated with exquisite carving and patterns, and the auxiliary decorations which locate in front of the door are also delicate.

(b) Manzi Gate, a house gate in Chinese ancient architecture, can be commonly seen in rich family. Merchant who comes from the south will use this type of gate when he settles in northern China. There is no door opening in the outside of Manzi gate and passage of the door is large. With simple and magnificent appearance, Manzi gate is of strong ornamental feature and practicability.

(c) Ruyi Gate. Its basic structure is similar with Manzi gate. Their difference is that door opening facade of Manzi gate is made up of timber structures, while the two sides of Ruyi gate's upper door frame are blocked by brick wall. Compared with Manzi gate, Ruyi gate has smaller shape, structure and depth. With various patterns and simpler structure, Ruyi gate's decoration is relatively simple, making it economic and practical. Thus this kind of gate is commonly used in Shandong dwellings.

(d) Suiqiang Gate, which is also called as wall gate, is usually placed at the attached position and is simple in structure. Without separate gate house, its wall gate is built in the courtyard wall directly. And then a few decorations will be added on the gate. It usually adopts small gate tower type which will not occupy much space. There is no passage in the wall gate. The gate is decorated with lintel, eave tiles and other covers. This kind of simple gate can be seen everywhere in Shandong and is often used in small or simple courtyard house.

(e) Festoon gate. It's usually used inside of courtyard house, serving as a demarcation of outer yard and inner house, to separate courtyard into front and back part,

inside and outside part. Festoon gate is characterized by a pair of short eave columns which hang on the two sides of the gate's eave. Head of column can be carved into lotus petal, melon, round or square types. There are hollow-out wood carving ornamentations, eave fascia decorated with colored painting between the two lotus columns.

There are also some other common gate types in Shandong dwellings. These gate types with different appearance and folk characteristics constitute the special local culture of Shandong dwellings and are the important part of Shandong dwelling culture.

2.2 Screen Wall

As a special structure, screen wall has significant influence on the construction and layout of Chinese traditional dwellings. In the construction of Shandong dwellings, screen wall is used to seek for good fortune and ward off disaster and evil energy and make the owner live in a prosperous and contented life. It shows people's pursuit and expectation for peace and happiness.

Screen wall can be set inside the gate or in front of the gate. Screen wall inside the gate adds a buffering zone in the yard and changes the spaces of courtyard, adding spatial distance and privacy. Screen wall located in the outside of the gate is usually built on the other side of the road and is high. It enriches the landscape visual effect of message's gate and makes the courtyard solemn, wide and magnificent. Screen wall can also be used in the gable of courtyard house and three-section courtyard house's wing room. It generally faces the gate and integrates with the gate as its auxiliary decoration.

Screen wall is usually formed by foundation, body, cornice and roof. Most screen walls are masonry structures which are decorated with various sculpture techniques and the sculpture is auspicious decorative patterns which express good wishes. The wall foundation is usually Xumizuo style. Wall core of the body is constructed by quadrel and then frame will be added on its surroundings. And the four corners of the wall body are decorated with patterns. Using brick, cornice is often constructed into wood-like structure. The screen roof is often lush gable roof, gable and hip roof or tiled roof of colored glaze.

Influenced by geographical environment, life style and customs, screen wall, an important part of Shandong dwelling, is different from place to place. For example, it's rare to see screen wall in the traditional dwellings which located in the northwest of Shandong province. While in other areas with favorable natural conditions and economic conditions, screen walls in dwellings are quite exquisite. For example, screen walls in the Weifang Yangjiafu New Year picture workshop are delicate and flexible in structure and forms. The decorations and patterns in screen wall are of rich local cultural characteristics.

2.3 Courtyard Wall

Most traditional Shandong dwellings are constructed with earth and wood. All the building materials come from the nature. In ordinary family, courtyard wall connects with houses in all the sides and then forms an enclosed message. Courtyard wall can be divided into stone wall, brick wall, cob wall and blend wall, etc. It's rare to see stone wall and brick wall because only rich family or places with convenient natural conditions use brick and stone wall. Cob wall is commonly used in Shandong and is built by adobe blocks. Some cob walls are built by mud and plank or built by forking cob onto a stack and do not need to make adobe blocks first.

Gate tower, wall and enclosure in Shandong dwellings connect with each other. Thus the courtyard is enclosed and neat and looks safe and firm. The wall is thick for adobe wall is often used in the past. Dwellings in mountain areas are built with local materials which are mainly stones. Thus most family's courtyard walls are built by piling up rubbles. The coastal dwelling's courtyard in Jiaodong areas is built by stones. The outer wall is built by piling up granite, making the wall thick and firm; the roof ridge is high and steep so as to drain water off and dry the fishing net. Some ridges are decorated with colored paintings, making the house has artistic, damp proof and windproof functions.

3. ROOM AND LAYOUT

3.1 Patten of Room

Patten of room varies greatly from place to place. For example, pattern of room in northwest and southwest of Shandong is simple; rooms in the middle of Shandong and Jiaodong areas are complex. But generally, pattern of room in Shandong is practical and smart. Dwelling rooms in rural areas give first place to principle house (north house). Generally, there are three rooms in principle house which covers kitchen, one bright room and half of a dark inner room. Wealthy family will set suite rooms on the east and west side. And one suit often has 3-5 rooms. Pattern in east and west suite is basically symmetrical. And beddings in east and west rooms are Kang built by adobe block. Kang can not only be used as bed in the bedroom, but also serve as an activity center for the whole family.

Kitchen in dwelling, which is also called "central room", locates in the middle of the principal room, having a hearth on the east and west side. There is a square hole over the hearth which is known as "light hole". An oil lamp can be placed in the hole and the light can be shared by the kitchen and inner room. There is a rope which has a wood hook on its end hanging on the beam. A food basket can hang on the hook to store food, which is not only ventilated, but also free from rats and cats. There are doors in the middle of east and west wall and the doors lead to east and west room respectively.

Customarily, parents-in-law live in the east room; son and his wife live in the west room.

3.2 Customs of Kang

The original meaning of Kang is "baking", that is, baking something with dark fire. While Kang we talked about now refers to a heatable brick bed (in North China) with an exhaust pipe. When cooking, the fume in the hearth will go through Kangs in the east and west rooms and then will be discharged from the chimney on the two gables. And the Kang can be heated by the waste heat of hearth. Kang has been used in Shandong for a long time. It's said that Kang was introduced to Shandong from the northeast in Liao and Jin times. And so far, Kang has been commonly used in regions ranging from the central region of Shandong to Jiaodong Peninsula and extending to Xiajin and Linqing in northwestern Shandong.

For the difference in local environment, living style and customs, the building style of Kang varies from place to places and shows the local life style and customs. There are so many kinds of Kangs because Kang is widely used in Shandong. Generally speaking, heated Kang in Jiaodong areas is the most representative. Moreover, Manwu Kang in Gaomi, Changyi, Pingdu, Huiming, Keshan Kang in Guangrao, Xiajin, Linqing, Licheng, ground Kang in Boshan, Zichuan, Guaizi Kang in Tai'an also have their own characteristics.

The surface of the heated Kang reaches door frame. There is a Kang wall which is built by black brick and unfired brick in front of Kang. It has a rectangle door for heating in winter in the center of its bottom. The side which is close to the door has a rectangle space, known as "shoes hole" which can be used to place shoes. The surface of Kang is covered with large unfired brick and then plastered with a layer of cob. Below the surface is the flue of Kang. The Kang has large unfired bricks on its surroundings and fuse unfired brick in the middle to support the surface and connect with the chimney.

Man Kang, which is also called "Manwu Kang", is built by separating a space on one side of the room. There is a small sliding door on the Kang, and a Kang hole connects with the hearth channel in the kitchen. Some house's hearth is set in the south of the house and is next to Man Kang. There is a square hole which is called "light hole" on the top of it. It's warm and neat when the whole family sleeps in the enclosed Man Kang in the winter.

Keshan Kang, which can also be called as "half Kang", is a big Kang which leans on the gable foundation in the house. Its length is the same as or a little shorter than gable. But it must cling to the gable, and the space between the north wall and the Kang can only contain a hearth. Guaizi Kang is shaped like a try square because one side of it leans on the south window and another side leans on gable.

Ground Kang, a special Kang in Zibo coal mining areas, is built by laying firebrick on the ground of bedroom. Coaling hole locates in the outdoor and can be blocked when sufficient coal has been filled into the hole and lighted. Then the fume will enter into the channel slowly and be discharged from the chimney to make the whole room to keep warm for a long time.

3.3 Layout

Principal house of traditional dwellings around Shandong is mainly a structure with two roof beams and three rooms. A door is built in the central of the house as an entrance, side room is used as bedroom, and the central room is used as a living room. Living room is also used as guest room and altar of home fete. With delicate furnishing, it shows the owner's social status, wealth, cultural tradition and family relationship.

In most living rooms of dwellings around Shandong, there is a square table placed in the middle of the north wall and a wood chair placed on the two sides of the table, serving as the seat for family head and guest. There will be large place reserved in the living room. And wealthy family's living room will be larger. Square table is made by carving hardwood, having a console table on its back. On the console table, there will be screened, vase, cap cone, antique, flowers and plants or hill stone potted landscape, etc. and calligraphy and paintings of celebrity are hanging on the wall. There are a lot of chairs beside the table and the chairs are very delicate. Commonly used chairs are round-backed armchair and arm chair. Most chairs have armrest, tooth-edged decoration as well as simple or complex pattern on its back.

Square table, which also called as "Baxianzhuo" in Shandong, is placed facing south. Its position is very important for it's the center of daily dining, entertainment, discussion and meeting visitors. Square table can also use as an altar to worship ancestors and gods on New Year's Day or other festivals. In this case, square table becomes a holy place.

In Jiaodong areas, three rooms or three rooms and a half of principal house have partition which is also called "Bizi". The central room has a door which can lead to the courtyard on its front and back and a door which can lead to the bedroom on its left and right. It's also called as "Jinjian" and has the function of living room. The room next to the south door has a hearth on its east and west side and there is a bellow which is known as "wind box" beside the hearth. Wall above the hearth is pasted with a woodblock printed picture of kitchen god. On the west wall side, a cupboard which is also called "kitchen cabinet" is placed near the north door, and a big water vat is placed beside the cupboard. There is a wood bed placed on the east wall side and on the Kang of east room. Rich and influential family has living room which is also called as "guest room". It is often located in the south house, having several tables, desks and calligraphy and paintings of celebrity and other

stuffs in it. Door in the living room which leads to the courtyard is called as "house door". It is usually firmly built and will be plugged in the night and opened in the day time.

In the past, rich and influential family's bedroom furnishing is relatively abundant and luxury. However, ordinary family only has some simple and practical furniture and decorations such as half table, wood case and cabinet. Wardrobe is necessary furniture in the inner room of Jiaodong areas: The upper part is drawer, the lower part has two doors facing the door, so it also named as "Yingmengui". Big cabinet is placed on the north side of door, and behind the door, there is a washstand with a copper or ceramic bowl on it. Some room will have a writing desk, that is, "half desk". The most important stuff in the room is a chair which means having a happy life. The bedroom also has ceiling on the roof which is known as "Yangqiang", being pasted with white paper or decal paper as well as decorative black paper-cut on the four corners and center. The Kang is covered with mat and a round of decal paper wainscot. The wall is painted with lime and decorated with New Year picture and the window is decorated with paper-cut.

SUMMARY

With long history and rich connotation, Shandong dwellings are the organic component of Chinese traditional dwellings culture and should get more attention and study. As urban-rural construction in Shandong keeps on changing every day with the vast development of national economic construction, it's essential to protect the local characteristics of Shandong dwellings reasonably and coordinate the relationship between protection of historic cultural heritage and economic development. Therefore, studying and systemizing the local characteristics of Shandong dwellings are of deep realistic significance for the present and future development of Shandong.

REFERENCES

- Huang, S. (1998). *Chinese dwellings: Analysis of traditional residential architecture*. China: Liaoning Education Press.
- Li, W. P. (2004). *Qi Lu historic series: Qi Lu dwellings*. China: Shandong Arts Press.
- Liu, S. L. (2009). *Chinese dwellings: Analysis of traditional residential architecture*. China: Tongji University Press.
- Long, B. Y. (1992). *Chinese traditional civil architecture*. Social Sciences Academic Press.
- Shan, M. (2004). *Qi Lu historic series: Qi Lu customs*. China: Shandong Arts Press.
- Shandong Tourism Administration. (2010). *Tourism culture of Shandong*. China: Shandong Science and Technology Press.
- Wang, Y. B. (2000). *Geography of Shandong*. China: Shandong Map Publishing House.
- Zhu, Z. C. (2004). *Shandong culture series: Dwellings*. China: Shandong Friendship Publishing House.