

The Study of Space Mode about Dratsang Buildings of Labrang Monastery in Gannan Area

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Abstract: The purpose of this study is to reveal the characteristics of space patterns of Tibetan Buddhist represented by Labrang Monastery, which classify and sum up the architectural space of the monastery by typology. Based on the measured data of the architectural space, "Space-line-of-sight" analysis method, the author puts forward that the core idea of the space construction of the Tibetan Buddhist dratsang building in Gannan area is try to use the contrast of space scale to explain the symbolic significance of using "door" as the "cult's way" to paradise. The "door" of the dratsang buildings as the basic design point establish a series of visual control methods, which the "door-pillar-joss" visual perception system is the mainly part.

Gannan Tibetan Buddhism culture started from Buddhism "phyi dar" period, which formed by "Hongfa" movement. Gannan prefecture is located in the Han-Tibetan cultural transition area, and it also influenced by the Mongolian, hui and other minority culture. Labrang Monastery, as a master of Tibetan Buddhist culture in Gannan area, its architectural form shows multicultural features and regional characteristics.

Dratsang buildings is one of the central architectural style of Tibetan Buddhism building system, is mainly used for the temple teaching and major festival. The architectural form of dratsang buildings originated from the form of India vihara and the Xinjiang "回"-shaped buddha-hall, and formed in the process of the localization development of Tibetan buddhism architecture gradually. This paper take dratsang buildings of Labrang Monastery as the research object, belongs to the category of the empirical research on Tibetan Buddhism history of architecture.

1. The History of Labrang Monastery Development and the Profile of Dratsang Buildings Construction

1.1. The Development History of Labrang Monastery

In 1708, with the support of the Mongols, the first Jamyang Trulku returned to Zaxiqi region, that is called Xiahe county now, and established the Labrang Monastery. Labrang Monastery is one of the six major monasteries of the Gelu sect in Tibetan Buddhism. The temple next to Daxia river in the south and back on the Woxiang Mountain in the north. After more than 300 years of construction and development, the temple, the river and the mountain formed a distinctive space pattern gradually. There are 6 dratsang buildings, 16 worshipping Buddha halls, 28 living-buddha's houses and a lot of monk's apartments etc. (Figure 1).

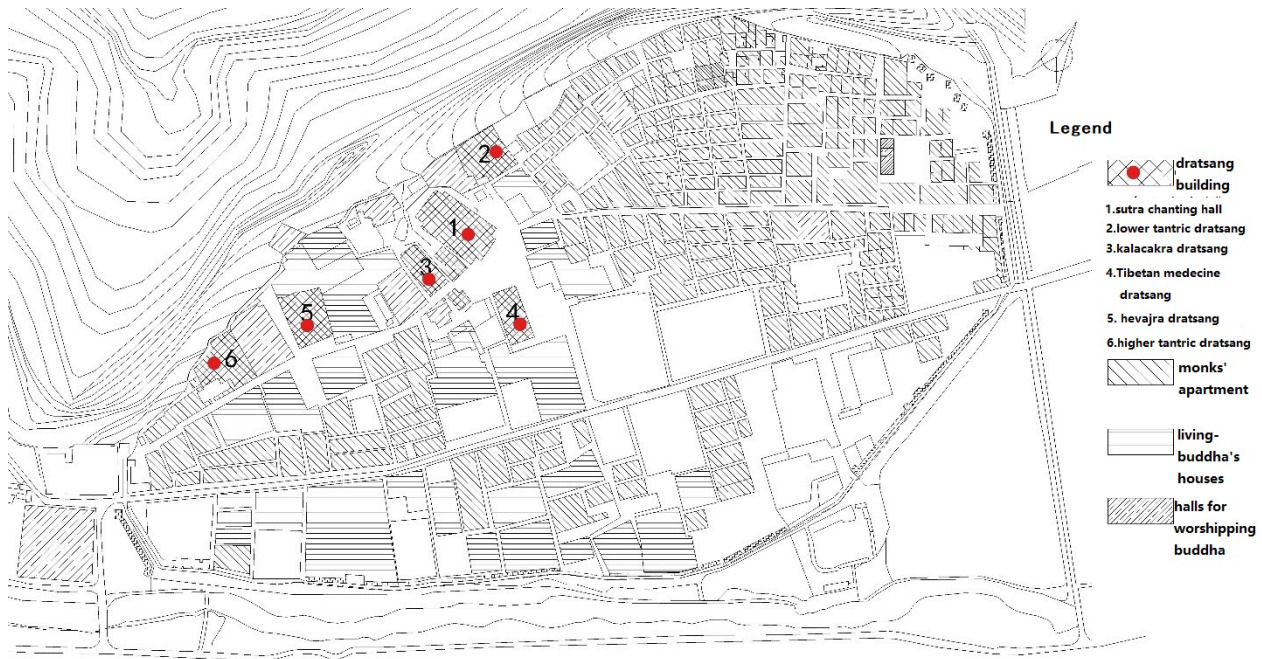


Figure 1 Layout of Labrang Monastery.

1.2. The Profile of Dratsang Buildings Construction

There are six dratsang buildings in Labrang Monastery, sutra chanting hall, Lower Tantric dratsang, Higher tantric dratsang, Hevajra dratsang, Tibetan medicine dratsang and Kalacakra dratsang. By the layout of labrang monastery, it is easy to find out that these six dratsang buildings are distributed in the northwest of the monastery, occupies the highest geographical location. Besides, these six dratsang buildings all have huge construction scale, so dratsang buildings space form are the monastery's kernel. Sutra chanting hall is the only exoteric dratsang, the others are tantric dratsangs, which constitute the labrang religious teaching system, "not only exoteric but also tantric, exoteric first and tantric later". The sutra chanting hall was only one which rebuilt in 1990s, the rest of the dratsang buildings renovated though, but buildings' original appearance were almost holonomic preserved.

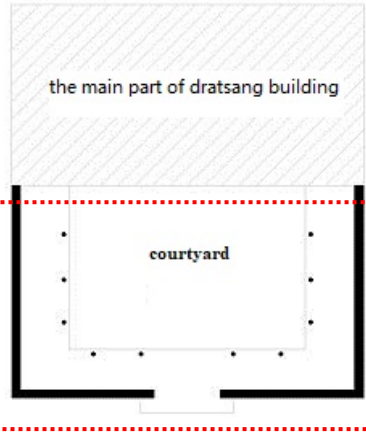
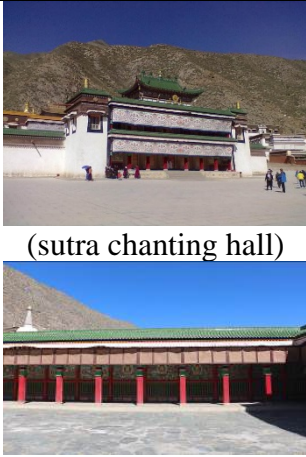
2. Space Composition of Dratsang Buildings in Labrang Monastery

2.1. The Courtyard Space

2.1.1. Gallery Courtyard

Gallery courtyard is formed by colonnades, whose three sides are all surrounded by colonnade. This type of courtyard space is only found in Sutra chanting hall and Hevajra dratsang (Table 1). In the courtyard of sutra chanting hall, the corridor pillars are Tibetan style. The parts of chapter are very complicated. The fust are square and its diameters of the column are unequal at the top and bottom, which are exquisitely carved and painted. Besides, the pillars' plinthes are round.

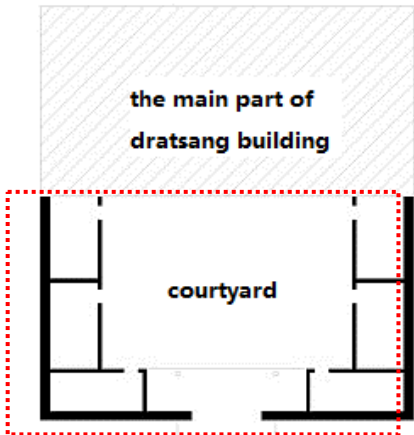

Table 1. The type of courtyard space about gallery courtyard in dratsang buildings.

The courtyard type	Plane form	Photos	Notes
Gallery courtyard		 <p>(sutra chanting hall)</p> <p>(Gallery courtyard of sutra chanting hall)</p>	Sutra chanting hall is the biggest dratsang in Labrang Monastery

2.1.2. Housing Courtyard

The housing courtyard is the courtyard structure of the monk building around. This type of courtyard space is the most widely used type in labrang monastery, such as Lower Tantric dratsang, Higher tantric dratsang (Table 2), Tibetan medicine dratsang and Kalacakra dratsang.

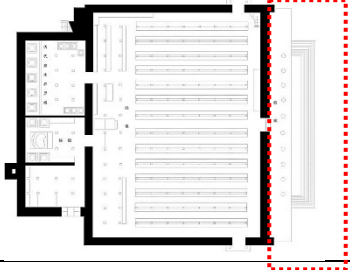

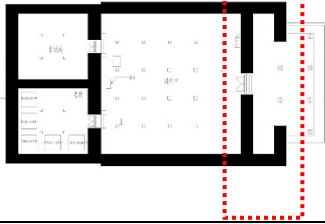

Table 2 The types of yard space about the building of dratsang buildings.

The courtyard type	Plane form	Photos	Notes
Housing courtyard		 <p>(Housing courtyard of Higher tantric dratsang)</p>	

2.2. The Porch Space

The portico used in the labrang monastery are “凸” pattern usually, which can be divided into two types of portico. Based on the different dimension of the portico, one is one deep portico and the other is two deep portico. Sutra chanting hall’s portico type is the former, the lower tantric dratsang, higher tantric dratsang, Hevajra dratsang, Tibetan medicine dratsang and Kalacakra dratsang are the latter type (Table 3).

Table 3 The type of portico space (Entrance space) in dratsang buildings.

Portico space	Plane form	photos
one deep portico		 (portico of sutra chanting hall)
two deep portico		 (partico of higher tantric dratsang)

2.3. Sermon Space

The main part of dratsang buildings usually contains sermon space and buddha space. Take higher tantric dratsang as an example, its sermon space can be divided into 4 parts, saint space, throne space, chanting space and traffic space (Figure 2). The six dratsang buildings in labrang monastery all set saint space inside, which generally arrange niche for a statue of the Buddha or bookcases for Tibetan Buddhist scriptures near the facade wall. The throne space is usually in front of the saint space and directly opposite to the entrance of sermon space. Chanting space plays a major role in the sermon space [1], which occupies most of the central area of the sermon hall. The chanting space area is neatly arranged with rows of cushions, and the space division is conducted by using the inner columns. The traffic space is distributed in the “回” type area between the chanting space and the inner wall of the sermon hall [2]. The traffic space can divided into two kinds: horizontal traffic space and vertical traffic space. The former’s main function is contact sermon area and buddha space, the latter’s main function is connects the first floor and the second floor space of the dratsang building.

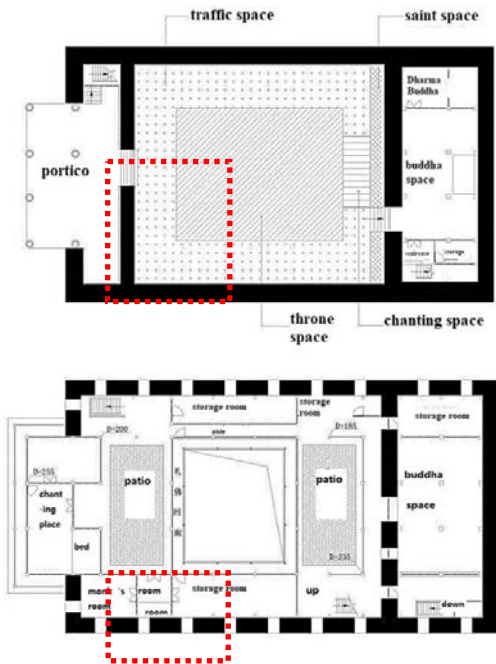


Figure 2 Space of Higher tantric dratsang (The top picture shows the first floor, and the bottom picture shows the second floor).

Labrang monastery's six dratsang buildings all use the same kind of architectural space layout called "Dugang Fashi" (Figure 2 the red part), which is the common form that Tibetan Buddhism building often use [3]. Its main characteristic is the middle square part of the first and second floor passes through the height, in the second floor around the patio generally set rooms for monk living, or for auxiliary function, or for simply worshipping and so on. So the second floor space shows as the shape of "回".

2.4. Buddha Space

Located at the rear of the dratsang building space is the buddha space, which directly connected with the sermon space. The buddha space can be divided into three types according to the different ways of enshrining the buddha, the space for worshipping stupas, the space for worshipping buddha and the space for worshipping dharmapala. The buddha space of dratsang building has three floors usually, of which the first and second floor are connected with each other like patio in the vertical direction, while the third floor are generally used as auxiliary rooms [4].

The Buddha space is composed of the saint space, worship space and auxiliary space (Figure 3). The saint space refers to the space area where the Buddha, niches of Buddha, stupas and sutra are stored and displayed, usually arrange in straight line or u-shaped, the main buddha always sets in the middle of the buddha space, the other religion things are on both sides. Worship space is a area that mainly for buddhist to pray for blessings. As sermon space and buddha space have different functions, the buddha space does not need to take up a large space of chanting area, the saint space and worship space become the main space of the buddha space. The auxiliary space includes the storehouse and other management rooms, whose location are on both sides of the main buddha area. Different space are usually separated by plank.

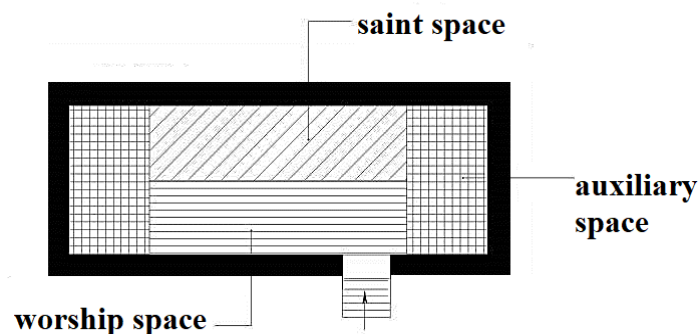


Figure 3 the construction of Buddha space in dratsang buildings.

3. Characteristics of the Space Mode of Dratsang Buildings in Labrang Monastery

3.1. The Cultural Prototype of the Space of Dratsang Buildings

Different regions have different forms of buddhist architecture, and show different regional features. However, for religious building, its general character that its core of architectural culture should be its religiousness, which means buddhism doctrines and its religious philosophy. The spread of buddhist culture started from the Tang-Tibetan culture exchange, but was most influenced by the Buddhism culture that come from India and Nepal. Judging from the development of Buddhism sects, it belongs to Mahayana Buddhism. So it should be said that the basic tenets and principles of Tibetan Buddhism are derived from Mahayana Buddhism [5].

Based on the early space form feature of Tibetan Buddhism buildings, it can be easily to find out that the buildings refer to express the centripetal space feature of buddhist philosophy, which is mainly means the "mandala" space principle. Such as buildings in Samye and Tholing are actually follow Indian Buddhism architecture prototype at first, but then under the long time influence of local culture, architecture form changed little by little, present strong trend that functional features and spiritual feelings combine each other, especially result on the dratsang building. Although

different architectural type has its own architectural function, but one the view of its religiousness, Buddhist architecture, including dratsang buildings, is builded on the construction concept about “explaining religious functions and broadcasting religious vision”.

Mahayana Buddhism, which influence the Buddhist culture deeply, always consider the “Free all living beings from suffering” as its basic purpose, consider “everyone has a Buddha nature, everyone can become Buddha” as the basic principles, so buddhist land which named “pure land” became the Mahayana Buddhism culture’s better vision, the emphasis is the inner purity and the truth and the kind [6,7], Tibetan Buddhism culture inherited the basic aim of the Mahayana Buddhism doctrines. At the same time, the architectural form of monastery has been influenced deeply. For Labrang dratsang buildings, the cultural prototype is the Mahayana buddhist concept of “pure land”, That is, through the creation of “pure land of Buddhism” [8], the space of religious purpose is to purify the mind and spread all beings is achieved.

3.2. The Spatial Scale Characteristics of Dratsang Building in Labrang Monastery

According to the people walk into the dratsang building that the main activities of the streamline, select the spatial element which has great influence on the psychological perception, through the analysis of dratsang building the space elements in sequence is the “entrance of courtyard-the courtyard space-patio space-entrance of dratsang building-worshipping aisle space-buddha hall entrance-space of buddha hall” (Figure 4). The following Table 4 is labrang dratsang buildings’ elements involved in the space of the main spatial data sorting and summary:

Table 4 The spatial scale data of main space of dratsang building.

Type		Sutra chanting hall	Higher tantric dratsang	Lower tantric dratsang	Kalacakra dratsang	Tibetan medicine dratsang	Hevajra dratsang
Portico (W)/worship aisle inside(W)		9:1	8:1	8:1	8:1	8:1	8:1
worship aisle inside (W)/buddha hall (W)		5:1	5.5:1	7:1	6:1	6:1	6:1
scale height	courtyard	0.000	0.000	0.000	0.000	0.000	0.000
	portico	1.500	1.560	0.300	0.720	0.800	1.050
	Sermon hall	1.800	2.360	0.600	1.000	1.200	1.300
	Buddha hall	2.200	3.514	0.900	1.620	1.700	2.300
Portico clear height (H1)		5.7	4.9	5.2	5.3	5.2	5.3
clear height of Sermon hall entrance (H2)		4.2	3.8	3.2	3.5	3.2	3.1
clear height of Sermon hall (H3)		3.9	3.2	4.1	4.2	4.1	4.1
clear height of patio (H4)		9.3	7.8	7.9	8.3	7.7	8.3
clear height of buddha hall entrance (H5)		2.2	1.9	2.1	2.5	2.2	2.1
clear height of buddha hall (H6)		8.9	6.6	6.5	7.7	6.6	7.3

(TIPS: “W” means space width; The data units are meters)

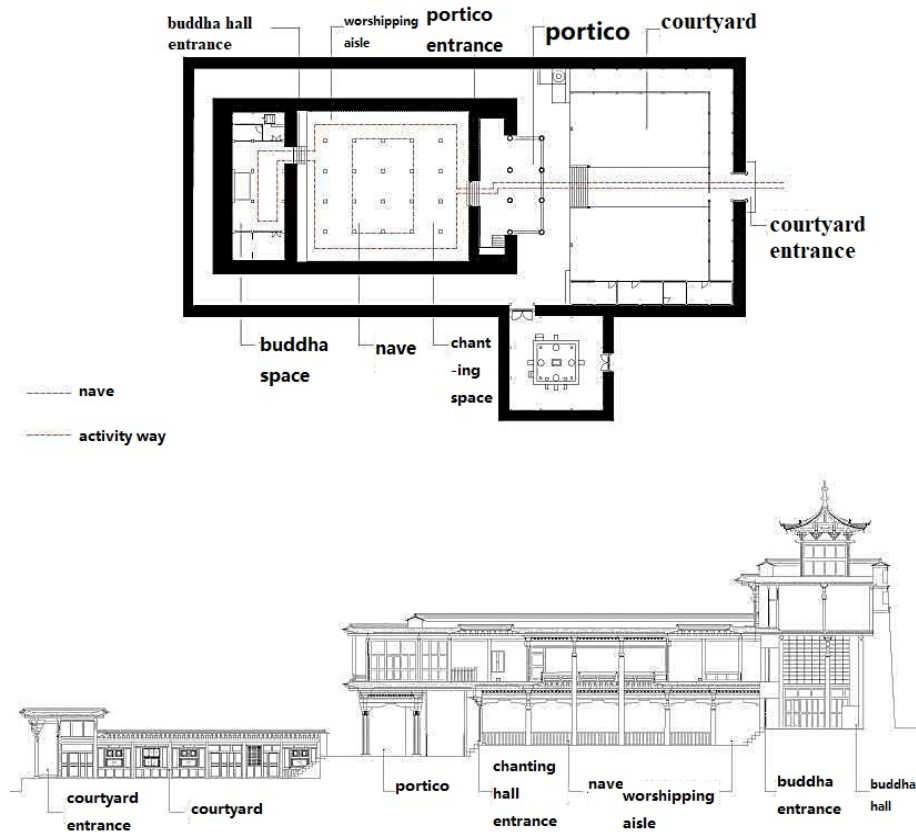


Figure 4 The main space of Hevajra dratsang.

3.2.1. Emphasize the Space Symbolic Meaning of “Gateway”

“Door” has been occupies an important position in the buddhist culture, it does not mean practical significance on the door, but refer to the door of the spiritual meaning, which named “dharma-mukha” [9]. The image of “door” on the uniqueness in the process of elysium, its architectural space established on the “dharma-mukha” cultueal prototype. The inside and outside of the “door” must have differences, so the internal and external space of the dratsang building are different on scale and form as well. Making Hevajra dratsang as an example, portico (W)/worship aisle inside (W) show that the entrance of Buddha hall and sermon hall has scale change on inner side and outside on the horizontal dimension. Consider on the data of Portico clear height, clear height of Sermon hall, and clear height of buddha hall, the three groups of measuring results suggests that it also have scale change on both sides of inside and outside in vertical dimension (Table 4). In addition, the “door” is the only way that between two different space, with the uniqueness, make a symbol of the “dharma-mukha” that open to pure land.

3.2.2. The Continuous Changes of Space Scale are Used to Highlight the Sacred Atmosphere of the Dratsang Building

The space of dratsang buildings in Labrang monastery formed spatial series of worshipping line as its core of spatial sequence, the beginning of this sequence is the entrance courtyard, the end is buddha space. especially in dratsang buildings, you can find that through Setting the aisle space, the length before entering the buddha space are extended, at the same time the ground height rise with the people walking deeply, which means that when at the the Buddha hall entrance, the space scale become smaller and smaller, making people feel strong oppressive, and this kind of psychological feeling come to the strongest along with the smallest height of Buddha hall entrance. But after that, when enter the Buddha hall, the space height rising abruptly [10], this super scale make obviously contrast to the spatial series before the buddha hall entrance, is the orgasm of spatial series. So this explained that in the whole architecture space sequence, Buddha hall entrance space is the most important part. Before this, using continuous scale decrease of main space, and after that, the

processing technique using exaggerated space increased the Buddha hall space scale, on the one hand, strengthened the psychological perception of “Buddhist pure land” [11], On the other hand, it is also a metaphor that it is a arduous and long journey to the pure paradise (Figure 4).

3.3. The Sight Guide Control and Its Characteristics of the Dratsaang Building in Labrang Monastery

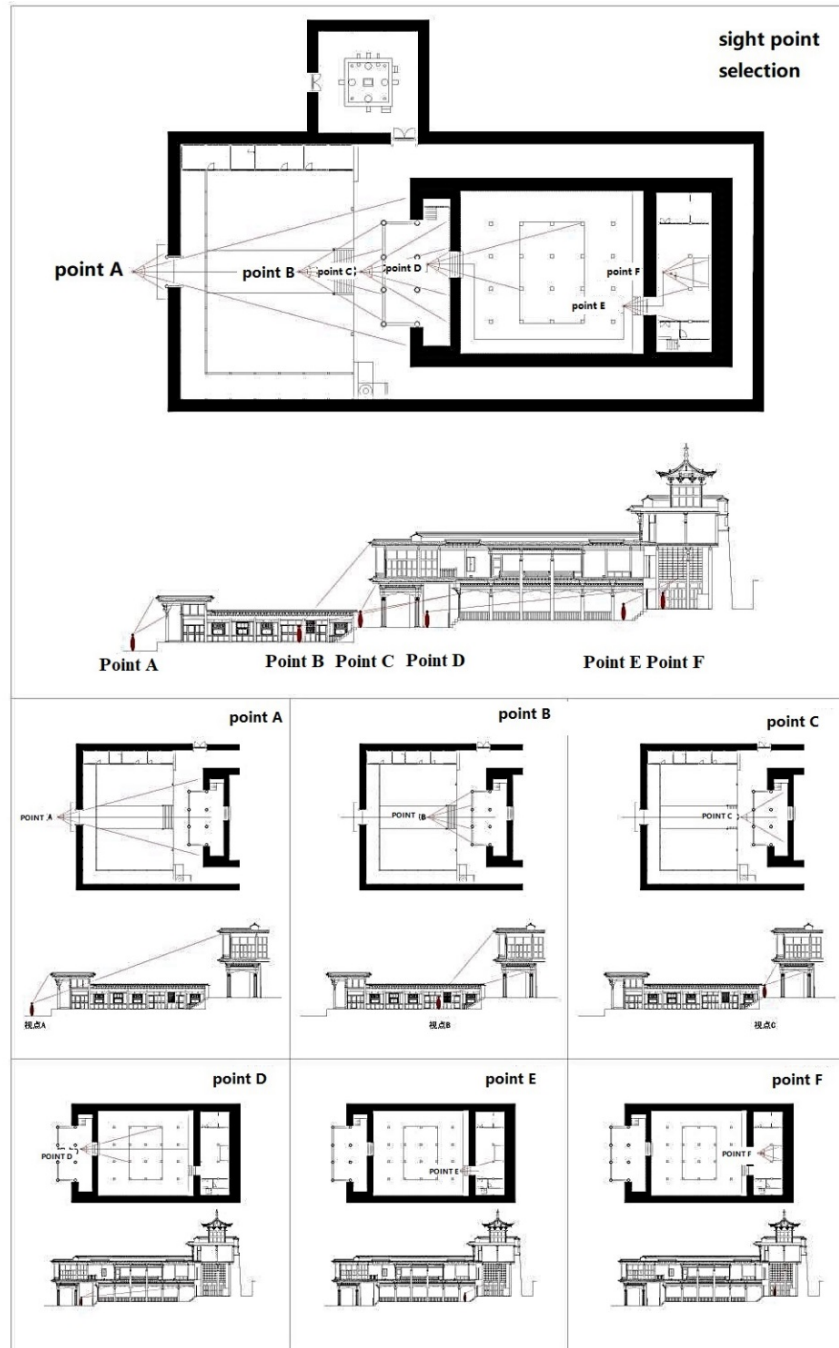


Figure 5 Hevajra dratsang space-sight analysis.

Making Hevajra dratsang as an example, based on the space exchange “door”, establish a sight guidance control analysis which include the horizontal sight guidance control analysis and vertical sight guidance control analysis. Analyze on the level 60° as the horizontal standard reference sight angle, 30° as the horizontal best reference sight angle, 30° as the vertical standard reference sight angle, the analysis found that: standing at point A of Hevajra dratsang, which at the point of the entrance into courtyard, the 30° horizontal best reference sight angle just cut inside along the column edge, while the 30° vertical sight just cover up the edge of the second floor roofline of the building facade, so it formed a image system that is “human - courtyard entrance – front façade of

dratsang building". Point B and point C is located in the courtyard space in the transition area between the portico space. At point B, 60° horizontal sight angle just covering the portico's first row's lateral column. At point B, 30° horizontal sight angle view along the first row of column the two column most inside, make the entry cover in the range of horizontal best perspective, actually strengthened the buildings' entrance space image. At point C, the 60° horizontal sight angle can be covered by the first row 2 middle column, while 30° horizontal sight angle just along the second row column, also make the entry within the best sight angle, thus formed the "human - column - entrance of dratsang building" image system; Point D is located on the area between the portico space and the sermon space, its 30° horizontal sight angle tangent along the entrance of sermon entrance, influenced by internal pillars of sermon space, the central figure of Buddha and buddhist images are strengthened, on vertical direction the point D with the first layer of roofing attachment in standard vertical visual field, formed a "human - entrance of buddha hall - column - Buddha" image system. So do the point E, it establish a serious of image system as well, which mainly centre on the "human - column - buddha" image system. It is important to note that point F is the only one in Hevajra dratsang of architecture space appears with the line of sight of figure of Buddha is beyond the standard view angle, if you want to see the whole buddha, you must look up (Figure 5).

To sum up, the two main characteristics of the dratsang building sight control system are: firstly, establish the "door—column—buddha" visual perception system, emphasize the space of "door" as a design basis points, the door, the column and the adornment between columns act as a limited role, strengthen and highlight the "buddha"; Secondly, attention should be paid to the space guidance, transformation in line of sight movement. For example, the courtyard entrance of Hevajra dratsang, the entrance of the sermon space and the entrance of the buddha space are not on the same axis, besides, the columns play a significant role in guiding and restricting space.

4. Conclusion

Represented by Labrang Monastery in gannan is an excellent representative of regional ethnic culture and religious culture of Tibetan Buddhism building, it is the important Tibetan Buddhism architectural heritage. The research about space form of Dratsang building is an important part of the field of Tibetan buddhist architecture, It is the basis to protect Tibetan Buddhism architectural culture heritage and religious architecture creation, under the increasing contradictions between protection and development, the study of regional religious buildings become more and more urgent.

Acknowledgements

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