

## Space of SHINDEN Residential Complex (SHINDEN-ZUKURI) Part 1. Lighting from the Side

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**Abstract.** It is shown that all the light in the interior of SHINDEN residence came horizontally from the side, and there was no light from the top of the architecture. It is emphasized that the light from the side characterized the interior space of SHINDEN residence.

### 1. Introduction

It should be noted first that the history of architecture has an aspect of a history of space concept. This aspect throws light on the architectural space and helps a historical understanding of architectures. In architectural and outdoor spaces we sense the space not only through the eyes but also through the five senses. Even in the stories (languages) and Picture Scrolls (Pictures) we sense spaces through the five senses. Note that the architectural space is studied also by comparison between those of Japanese and of foreign structures.

The architectural history of Japan has been studied in detail. But the history from the viewpoint of architectural space has been explained for each building individually, and has not been discussed in general. The present authors have tried to construct the history from this viewpoint including examples from ancient times to recent times. As a topic of the architectural space the light in the space of SHINDEN residence is studied here.

### 2. Structure of SHINDEN-ZUKURI and Its Lighting

#### 2.1. *The composition of SHINDEN Complex*

SHINDEN Complex was the residence of noble class (the Heian Aristocracy) in the Heian period (794–1192). SHINDEN Complex consisted of one-block lot (120 square meters), which is surrounded by a fence of soil wall (Tsuijibei). All buildings were one story buildings. SHINDEN Complex is connected with outdoor space made of gardens, ponds, streams, islands, hills, bridges, and paddocks in addition to SHINDEN hall, smaller



Fig. 1. SHINDEN Complex (SHINDEN-ZUKURI) Hojuji Mansion (reconstructed).

shinden (Tai), hallways (corridors, Watarou), inner gate (Tyumon), a fence of soil wall (Tsuijibei), and pavilions (Izumidono, Tsuridono). Accordingly, the whole lot including gardens is called SHINDEN Complex (Fig. 1). The term of SHINDEN residence is originated from the central structure of SHINDEN complex, which means “the hall for sleeping” in Japanese.

The Building style before SHINDEN Complex (during and before the Nara Period) had no hallways (corridors) (see Fig. 2). Although buildings in Nara period were enclosed by soil wall, they did not have the architectural parts connecting buildings mutually. Buildings were scattered unconnected.

The SHINDEN style is considered to have begun by connecting these buildings with raised and boarded hallways. The view of space and sequence of views with observer's motion changed greatly by adding hallways. Spaces observed from the fixed height of view point on the floor appeared. This is the new point of view different from the former period. The way of making spaces and viewpoints was sharpened and sophisticated. At this time the concept of space in Japanese architectures was evolved greatly.

Though the hallways seemed to be sub-spaces, they supported the system of space-making. Since observer's motion from one building to another was important, the dimension of time was involved as an essential element.

## 2.2. The view of garden (Sight line to the garden)

The outdoor elements, including gardens and other buildings, were seen from the raised and boarded floor, which were about one meter higher than the ground level (Fig. 3). Views from the interior were obtained by looking down and looking horizontally from the fixed level, which is an important factor.

The top of view, such as that of garden, was bound by the tip of the eaves (Fig. 3). In addition, scenes of the garden were framed like Picturesque by the horizontal line of floor and the row of vertical columns.

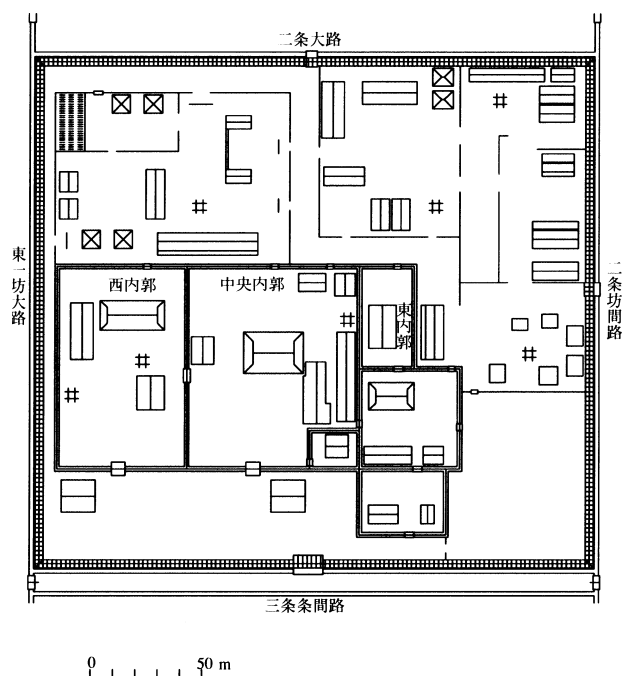


Fig. 2. The plan of North Palace in the Nara Period. The residence of noble class (the Nara Aristocracy).

Spaces seen by observers were caught by eyes of people moving around on the same level of the floor. This is the characteristic of SHINDEN Complex different from residences in the former period. In summary, spaces of architectures and gardens were sensed and formed with the fixed height of view point.

### 2.3. The light from the side

Each buildings of SHINDEN Complex, where nobles in those days spent their daily lives, was composed by the core, peripheral sections and hurdle veranda (Fig. 4). In the story of “The Tale of Genji” and “The Tale of Genji Picture Scroll (emakimono)”, these composition of space were described and drawn (Fig. 5).

In “The Tale of Genji”, the well-known roman in the Heian period, the role of “the edge (Hashi)” which is space close to the exterior space in the interior of the building was often played as a stage of the stories in the following way. The nearer a person approached “the edge”, the nearer he (she) should have approached to the light, thus the clearer his (her) figure appeared. For example face and outline of a woman who appeared on a stage of the story, could be expressed clearly when she came to the edge of interior space.

Avoiding men’s eyes, noblewomen in the Heian period stayed in the Moya (the core), and were away from the Hashi near the exterior space. Woman’s approaching to “the edge (Hashi)” was prohibited as a not graceful, shameful and lacking manner.

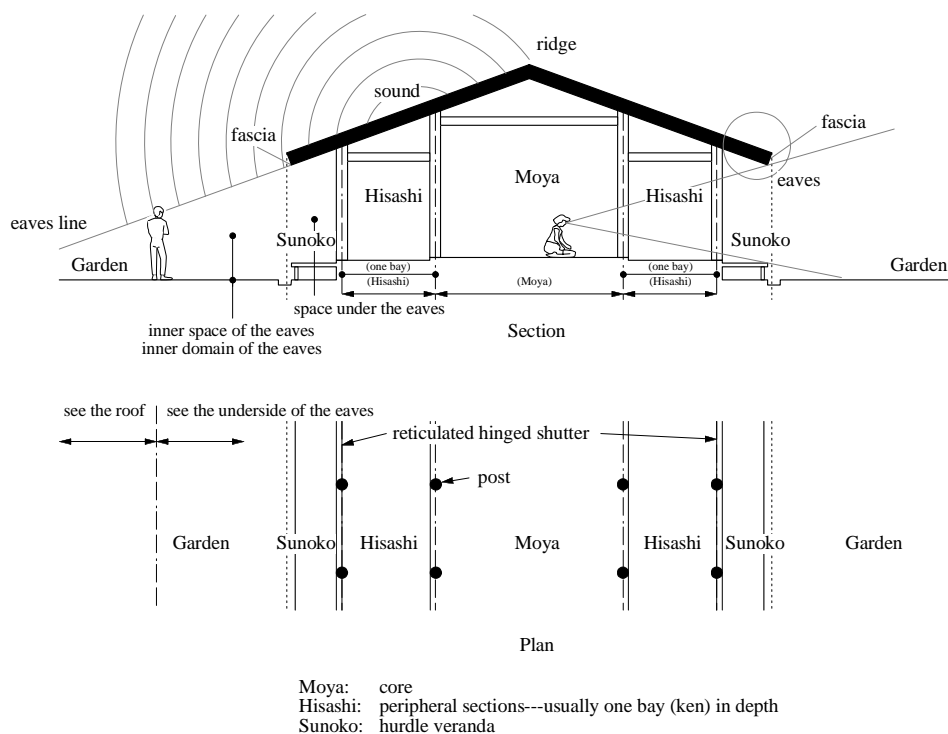


Fig. 3. The Inner Domain of the Eaves (The Inner Space of the Eaves). Above: sectional composition of side view, below: sectional composition of plan view.

In SHINDEN residence the core did not have the light coming directly (Fig. 3). The light came through the peripheral sections from the side. There were many interior partitions and movable partitions (Shiturai) in the core and the peripheral sections. By those shielded partitions, the center of the core was dark. It meant that thing's and people's figures became vague as one came into the center. For example, noblemen must come into this darkness in order to look for women.

The direction of men's eyes coming from the outdoors was the same direction where light was coming from. The Chinese character for the name of hero of "The Tale of Genji", i.e. "Hikaru", means of "light", while "Genji" is the family name. Although Hikaru Genji was a symbol of men, "Hikaru" was also a symbol of the light itself. It was a very splendid idea that the author, Murasaki Shikibu, gave the ideal hero a name "Hikaru (Light)". Because "The Tale of Genji" includes stories that men like "Hikaru (Light)" broke into the space of women from the outdoors. Murasaki Shikibu realized precisely that the SHINDEN structure had the space where men and light broke into.

It was described in the chapter of "Suetsumuhana (the Safflower)" in "The Tale of Genji", that although the hero Hikaru Genji had an affair with Lady Suetsumuhana several times, he did not know her face. It was the next morning after their several meetings that

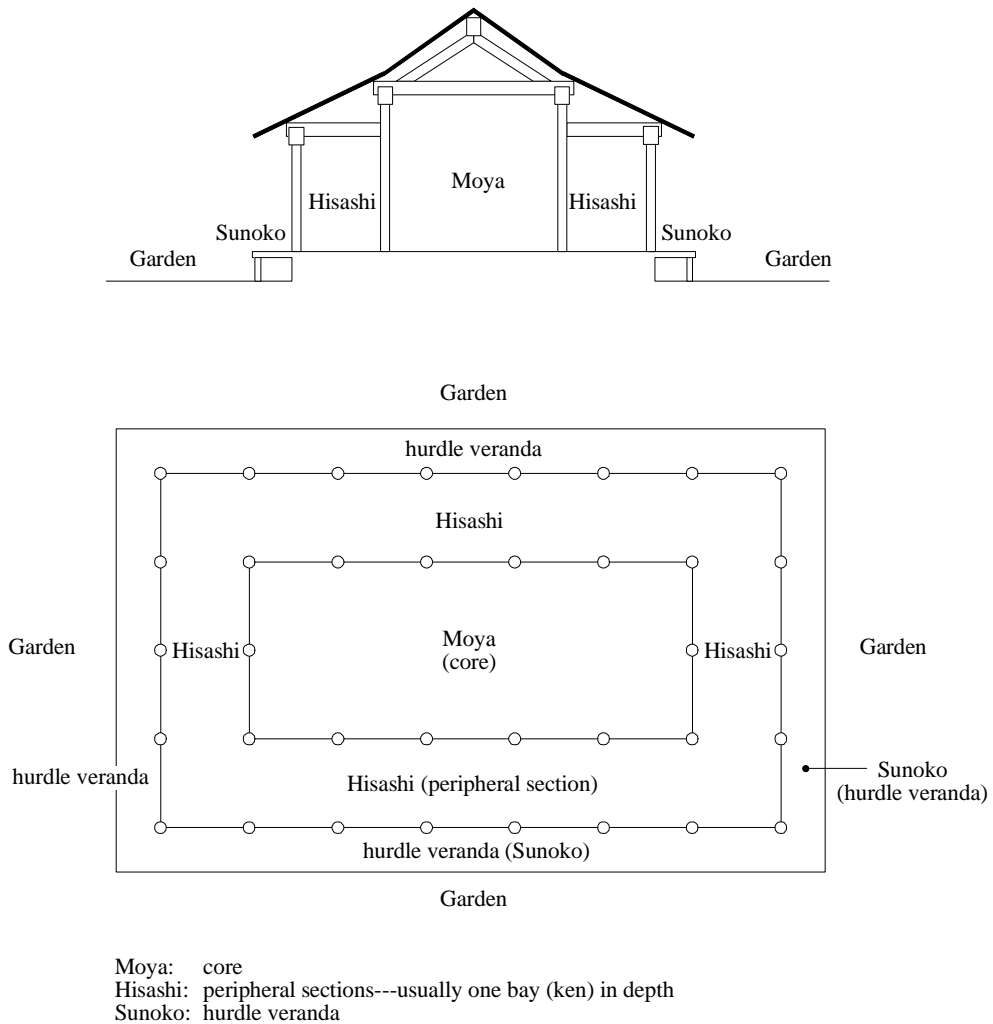


Fig. 4. The Composition of the core (Moya)-the peripheral sections (Hisashi)-the hurdle veranda (Sunoko).

Hikaru Genji saw the Suetsumuhana's face first. At that time Hikaru Genji opened the hinged shutter and Suetsumuhana came out of the Moya (the core) to the Hisashi (the peripheral section) according to his request. When the face and the figure of Suetsumuhana were lighted clearly by the morning side-light, he was surprised by her ugly face with her long and red nose. "Light and Darkness" of the space of SHINDEN residence is described typically and dramatically in the chapter of "Suetsumuhana (the Safflower)".

While Japanese architecture did not have the structure taking light directly through the

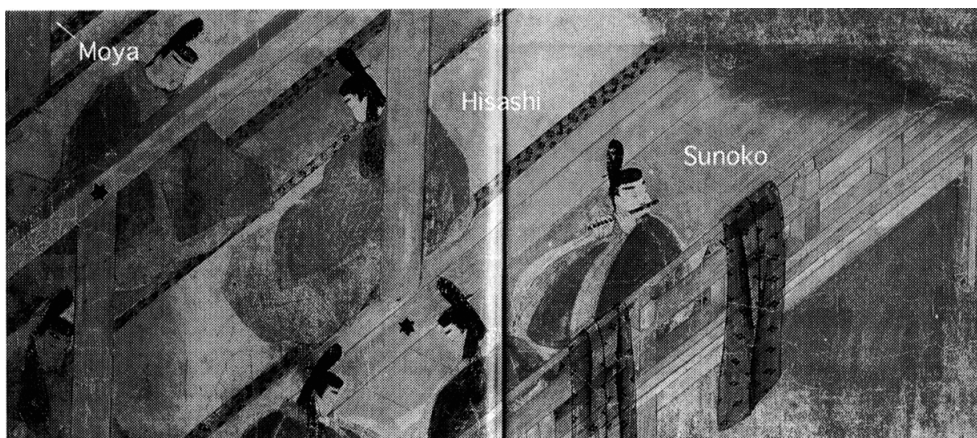


Fig. 5. The Tale of Genji Picture Scroll “Suzumusi-2” (“Bell-Ringing Cricket-2”).

clerestory, European churches (Basilica, or those of Gothic style) had a nave lighted directly from above (Fig. 6). The nave was located higher and the aisle was lower. This difference of heights was considered in lighting, and natural lighting from the clerestory (so-called the clerestory-lighting) did work well. It could be seen that the nave and the aisle were articulated from the outside as well.

The interior space of the Gothic architecture gives an impression of standing high upward at the nave. It was the space where the daylight was falling from the top. Therefore, the light was connected with the center of the architecture.

As for religious architectures in Japan, even though they had statues of Buddha at its center, the core did not accept direct light.

For example, though the Kondo Golden Hall, main building section of the Horyuji temple seems to have clerestory like architectures of the European church, the light does not come from the upper external wall of the border. The first floor is ceiled, and as there is no second floor people cannot enter the second level. The space of the second level is closed in the pitched darkness (Fig. 7). The second store has windows (Renji window), through which, however, the light does not come in. These windows are only for ornaments design of the external walls. Therefore, the interior space is controlled by the side-light of the first floor. The five story pagoda, in the Horyuji temple also has similar windows above the first roof.

In summary Japanese ancient architectures from the Asuka period to the Heian period, i.e. residences for nobles and temples, the light came from the side and passed through from the peripheral sections to the core. Moreover, the interior space of SHINDEN residences was closed by “various partitions (Shiturai)”. The light from the side characterized the interior space and facades of the SHINDEN residence. Even at noon, it was still dark in the core. Therefore, the darkness is the essential keyword for discussion of Japanese Space.

However, in Japanese Shrines, fundamentally the light from the outside was prevented. Therefore the interior was pitched dark.

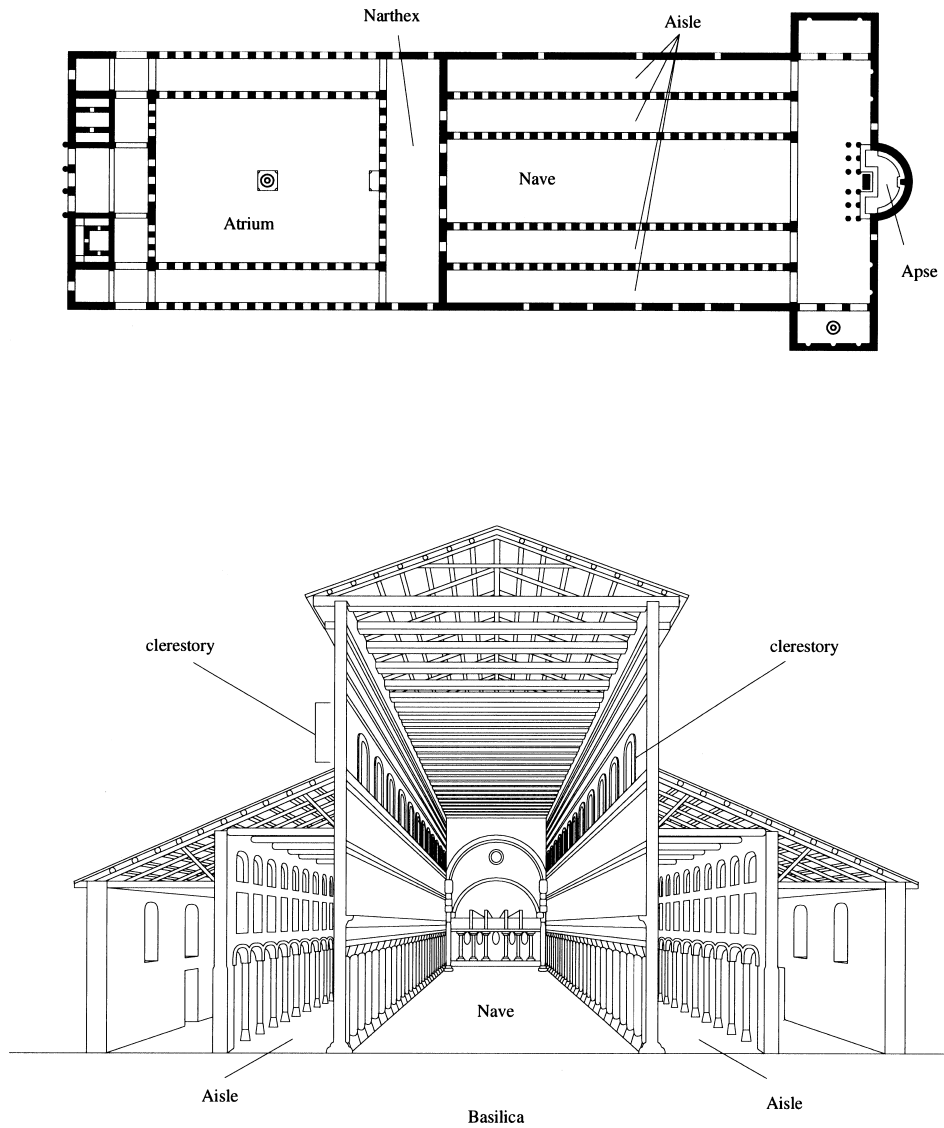


Fig. 6. The section of the basilica (church).

### 3. Conclusion

All the light in the interior of SHINDEN residence came from the side horizontally. It was this light that characterized the interior space and the facade of SHINDEN residence. It also had a great influence in Japanese spiritual cultures, such as literatures. This

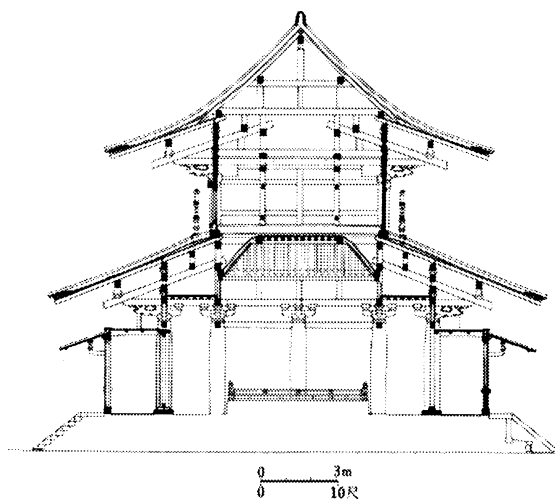


Fig. 7. The Section of The Golden Hall (Kondo) in Horyuji Temple.

conclusion is considered to be applied to many Japanese traditional architecture before tea ceremony houses (Tyashitu) appeared.

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