

Modernized Traditional Temple

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Modernized Traditional Temple

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This thesis design explores the integration of traditional temple architecture with modern design principles. The study focuses on reinterpreting and modernizing traditional elements using contemporary materials and building techniques, while still preserving traditional religious culture and elements.

The research commences with the analysis of traditional temple architecture, encompassing aspects such as spatial layout, key elements, and architectural techniques. It then delves into various methods of integrating these traditional features with modern elements.

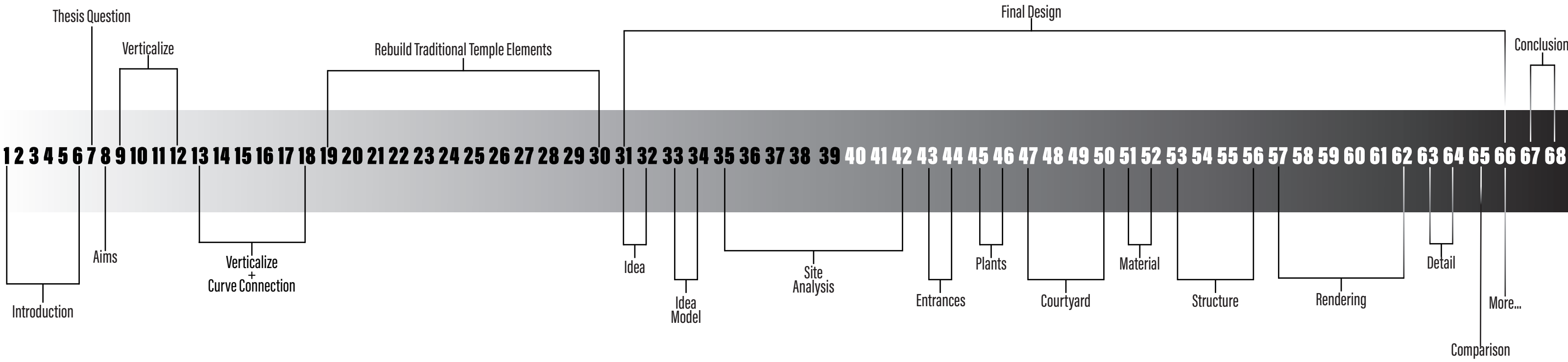
The design shows how traditional temple architecture can be modernized to fit today's urban environments. By blending time-tested designs with contemporary innovations, can create spaces that honor the past while serving the present and future.

Modernized Traditional Temple

Jitong Zhang

The environment in which we live has undergone tremendous changes with the development of our society. However, traditional temples in China have always maintained their classic methods. This thesis primarily focuses on exploring how to modernize traditional Chinese temples and traditional temple elements.

The thesis began by studying traditional temples, including their spatial layout, traditional styles, and historical background. Then, the thesis studied modernization methods through exploring permutation and combination, extraction and reconstruction of elements. Finally, it determined the design to modernize traditional elements in order to better integrate them into modern social spaces.



Chinese Buddhism Temple

Chinese Buddhism originated in India, but after thousands of years of integration with Chinese culture, it has formed its own unique characteristics.

Buddhism first formed in China during the Han Dynasty (2.BCE). In China, Buddhism, Taoism, Confucianism and other ideological systems complement each other and influence each other, forming a unique religious and cultural landscape.

Buddhism, as one of the most important religious beliefs in China, has a large number of temples spread across the country. Some of these temples are built in the city center, some are built in the mountains far away from the city. There are "shadows" of temples everywhere in China.



Jingan Temple
Shanghai, China



Xuankong Temple
Shanxi, China

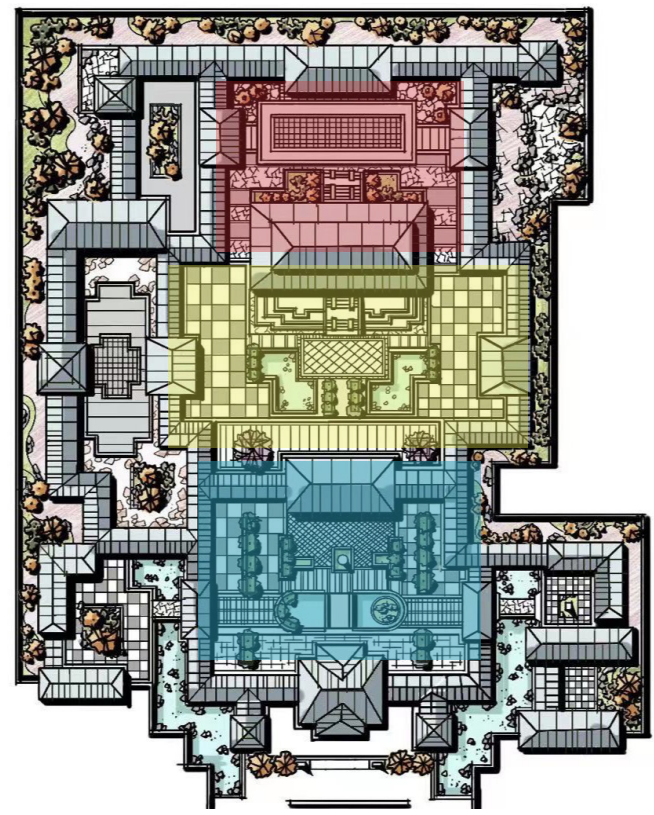


Ganlu Temple
Fujian, China

Layout of a traditional Buddhism Temple Complex

Layout of a traditional Buddhism Temple Complex

3-Entry Courtyard: Temples are usually organized along an axis that connects the entry gate, the three courtyards, and the praying halls. This axis establishes the path of procession and allows for a layered, continuous movement.



Elements of Temple Complex



- 1. **Gate:** The main entrance of a temple is the first portal into the temple and is also one of the landmark buildings.
- 2. **Hall of Heavenly Kings:** Located behind the mountain gate, it is a hall dedicated to the four heavenly kings. The heavenly kings are the protectors of Buddhism.
- 3. **Main Hall:** It is the most important hall in the temple and houses the main Bodhisattva or Buddha statues of Buddhism, usually Sakyamuni Buddha, Manjushri, Samantabhadra.
- 4. **Dharma hall:** a place used for chanting, lecturing, and monks practicing.
- 5. **Bell Tower and Drum Tower:** used to tell time and promote Buddhism, marking the beginning and end of daily temple life.
- 6. **Depository of Buddhist Sutras**
- 7. **Canteen(Dinning hall)**



Baima Temple, Luoyang
First built 1900 years ago



Dazhao Temple, Tibet
First built in 647



Famen Temple, Xian
First built 1700 years ago



Labuleng Temple, Tibet
First built in 1709



Saolin Temple, Henan
First built in 495



Confucian temple, Shandong
First built in 1709

After thousands of years of social development, the built environment we live in has always been improving, from thatched low-rise buildings to skyscrapers. Due to the importance of Buddhism, ancient emperors gave temples the same building regulations as royal palaces. These regulations have not changed in the last 1800 years.

Has the temple been forgotten?
Doesn't it require modern changes?
Is the traditional architectural style where it ultimately belongs?

How can contemporary architecture design be integrated into the construction of traditional temples while preserving their original significance?

How can traditional elements be modernized?

How can religious elements be preserved while modernizing the architecture?



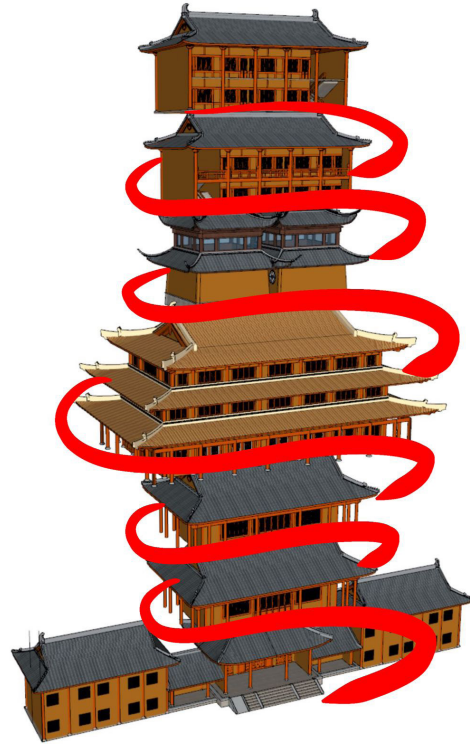
Identify relevant traditional temple elements and change them to modernize them.

Maintain the basic construction methods of traditional temples and integrate them into the proposed design

Fusion

Verticalizing traditional temple

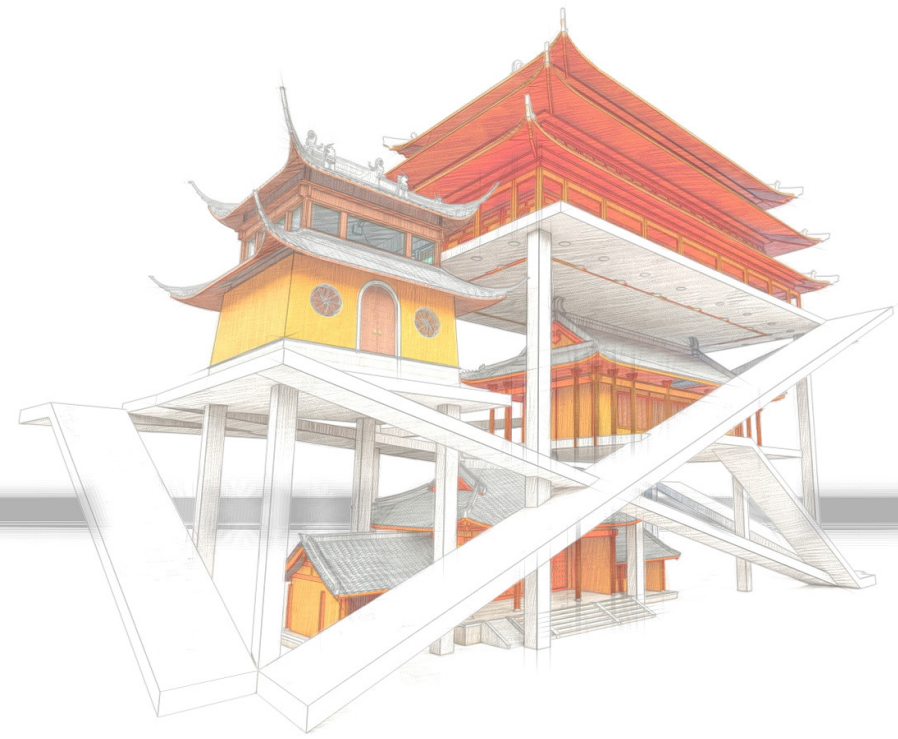
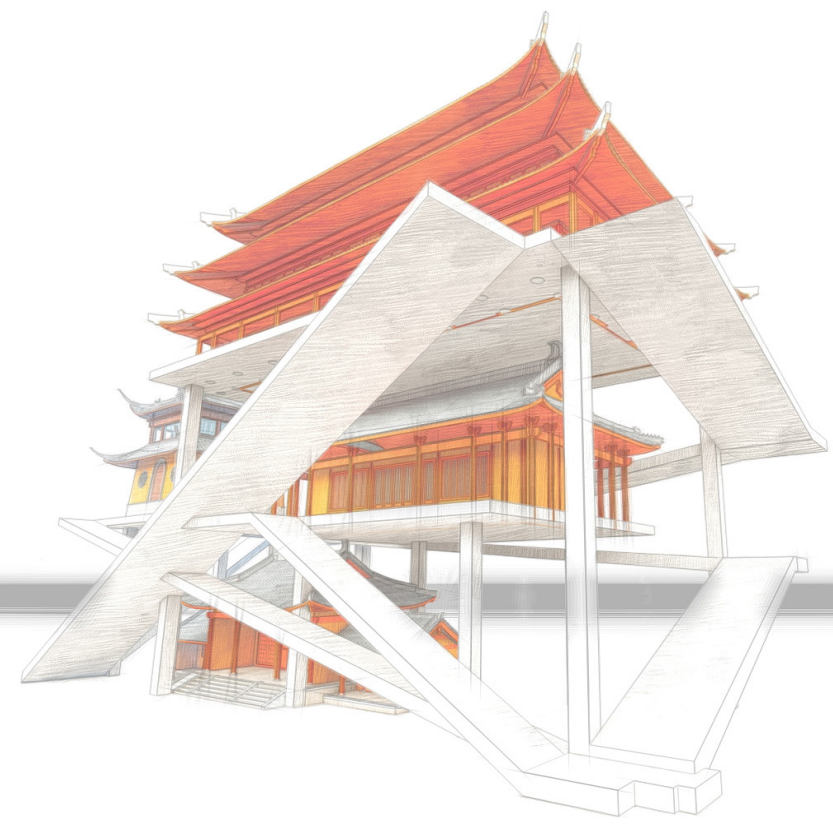
A simple process of combination of traditional temple buildings arranges them vertically. A ramp is incorporated to connect the parts and facilitate the flow of movement.



Case Study



By Filip Dujardin (3D computer work)

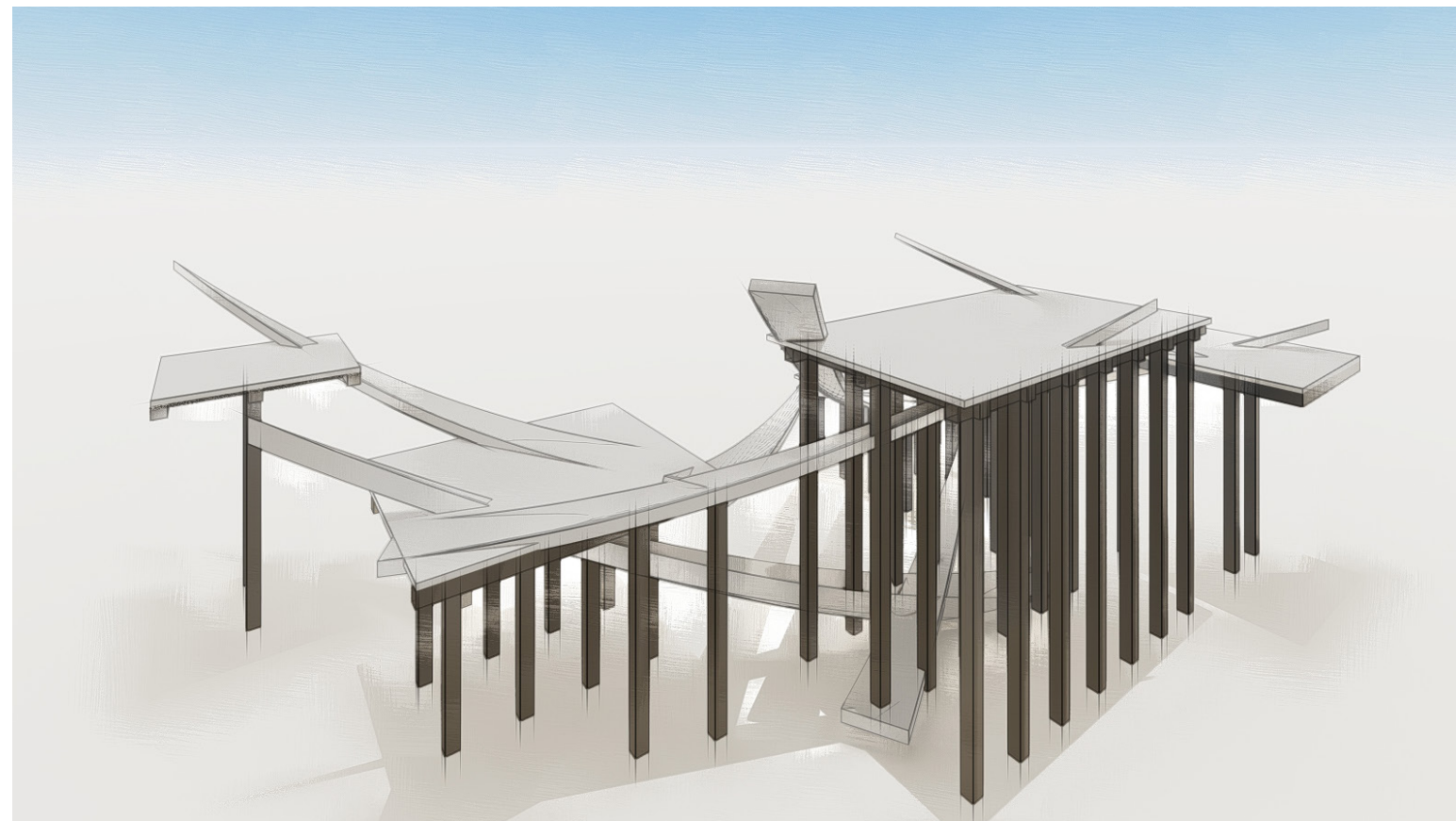
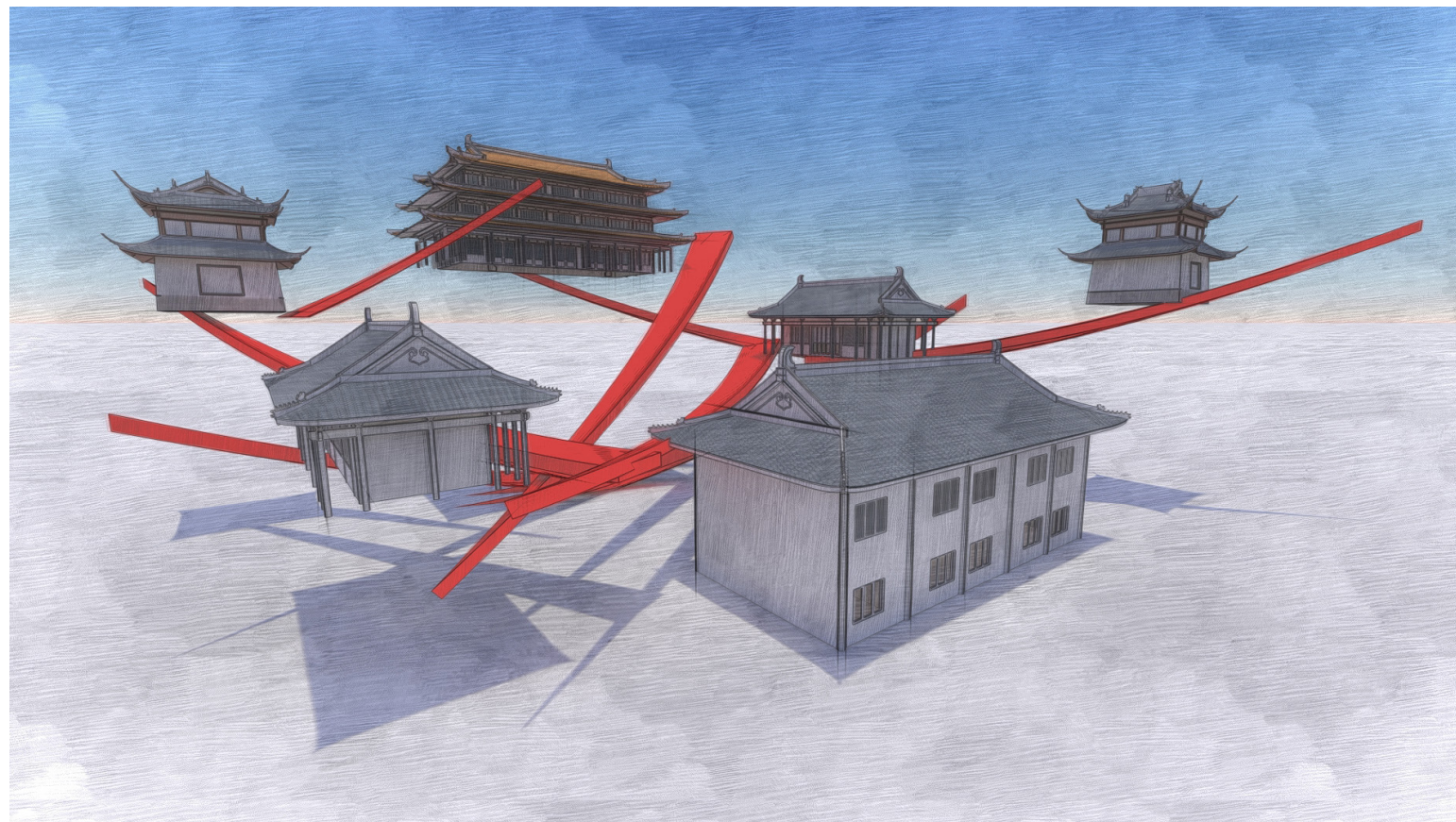


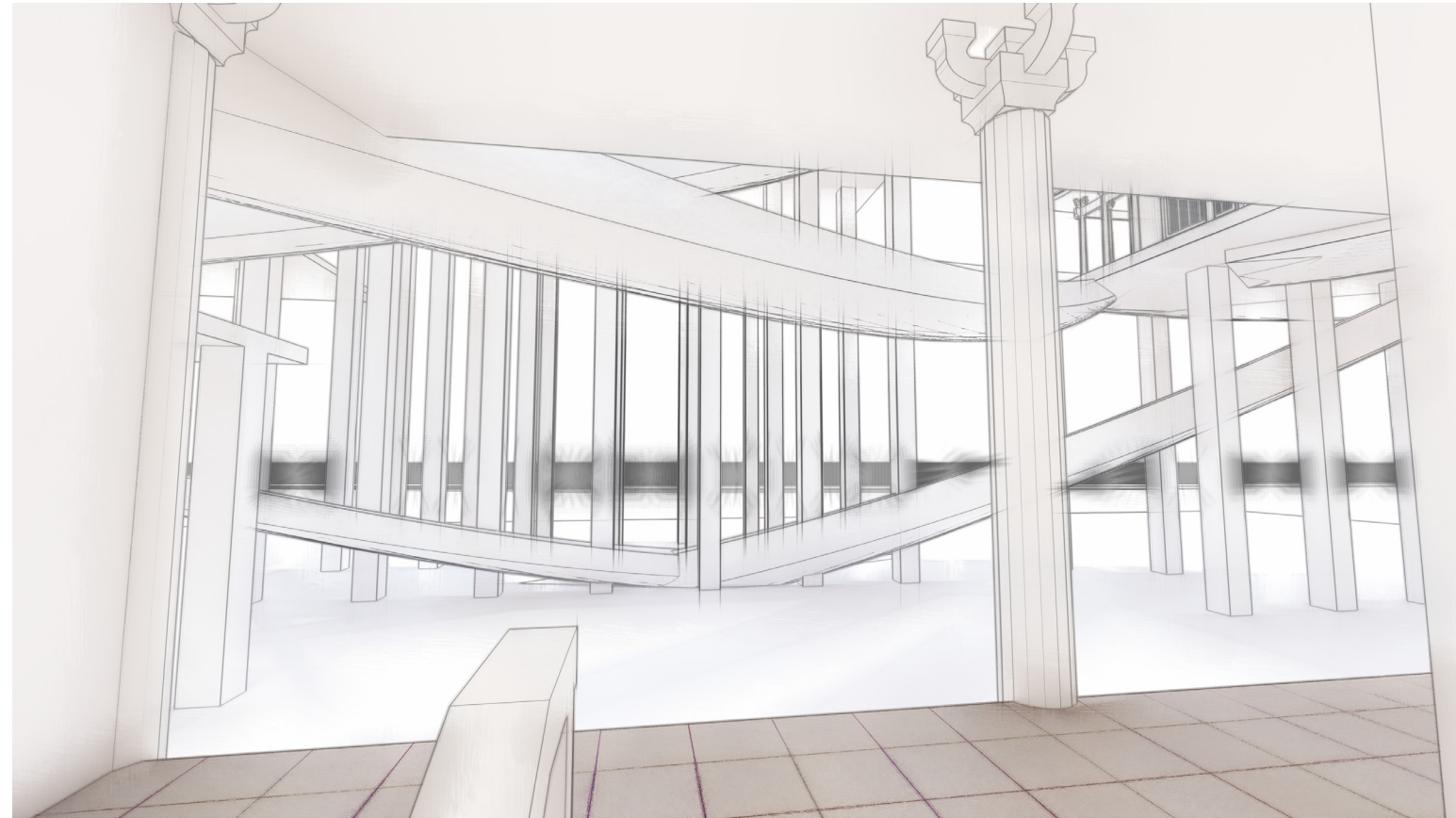
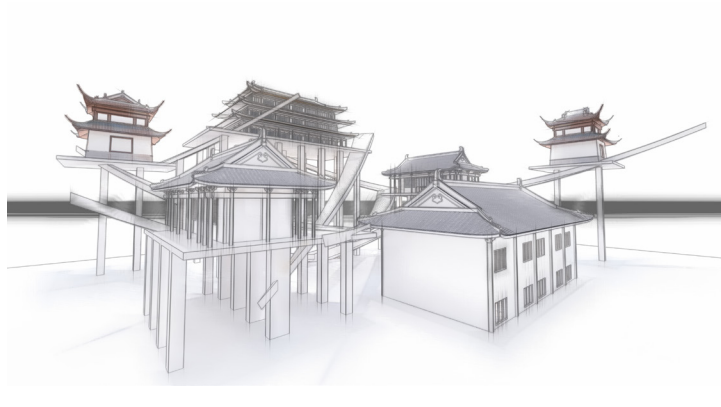
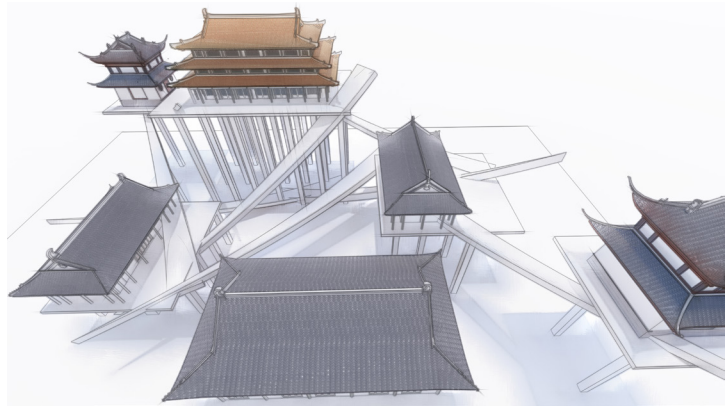
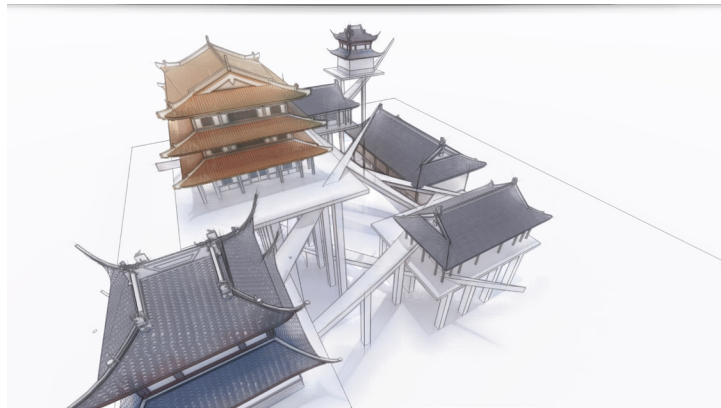
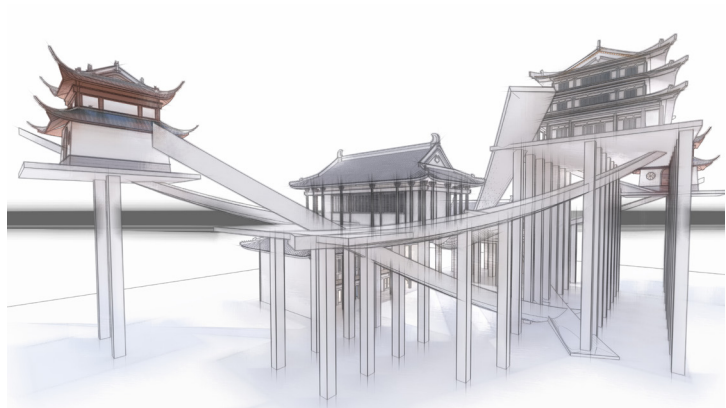
The straight staircase becomes a curve to be more in line with Chinese temple architecture.

The main differences between Chinese temple architecture and Western architecture of the same period are:

1. The choice of materials. Chinese temples employ wood as the structure and the roof is covered in tiles.
2. For the shape of the eaves, Westerners tend to use straight lines, but temple buildings follow the curve of the upturned eaves of traditional Chinese buildings.

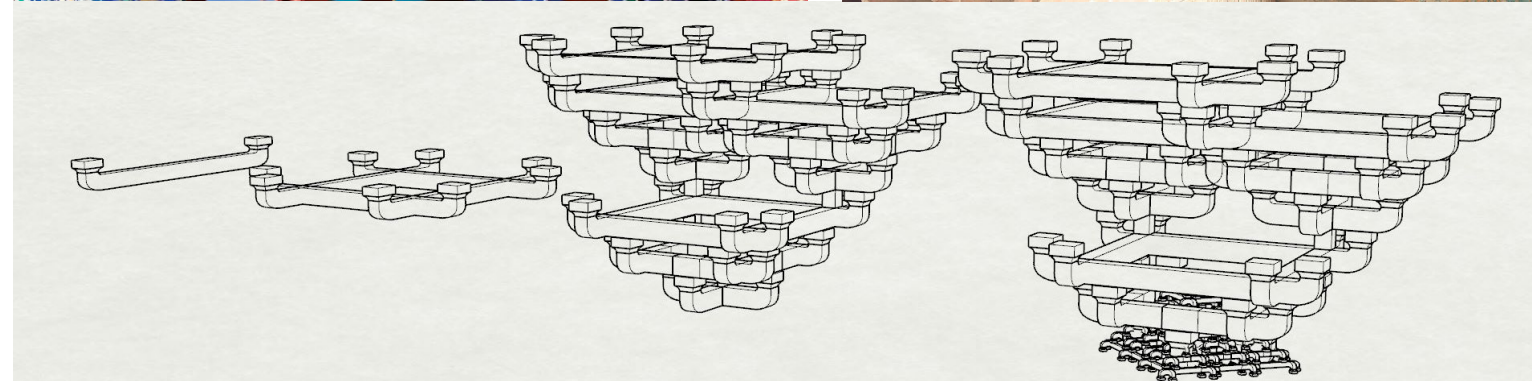


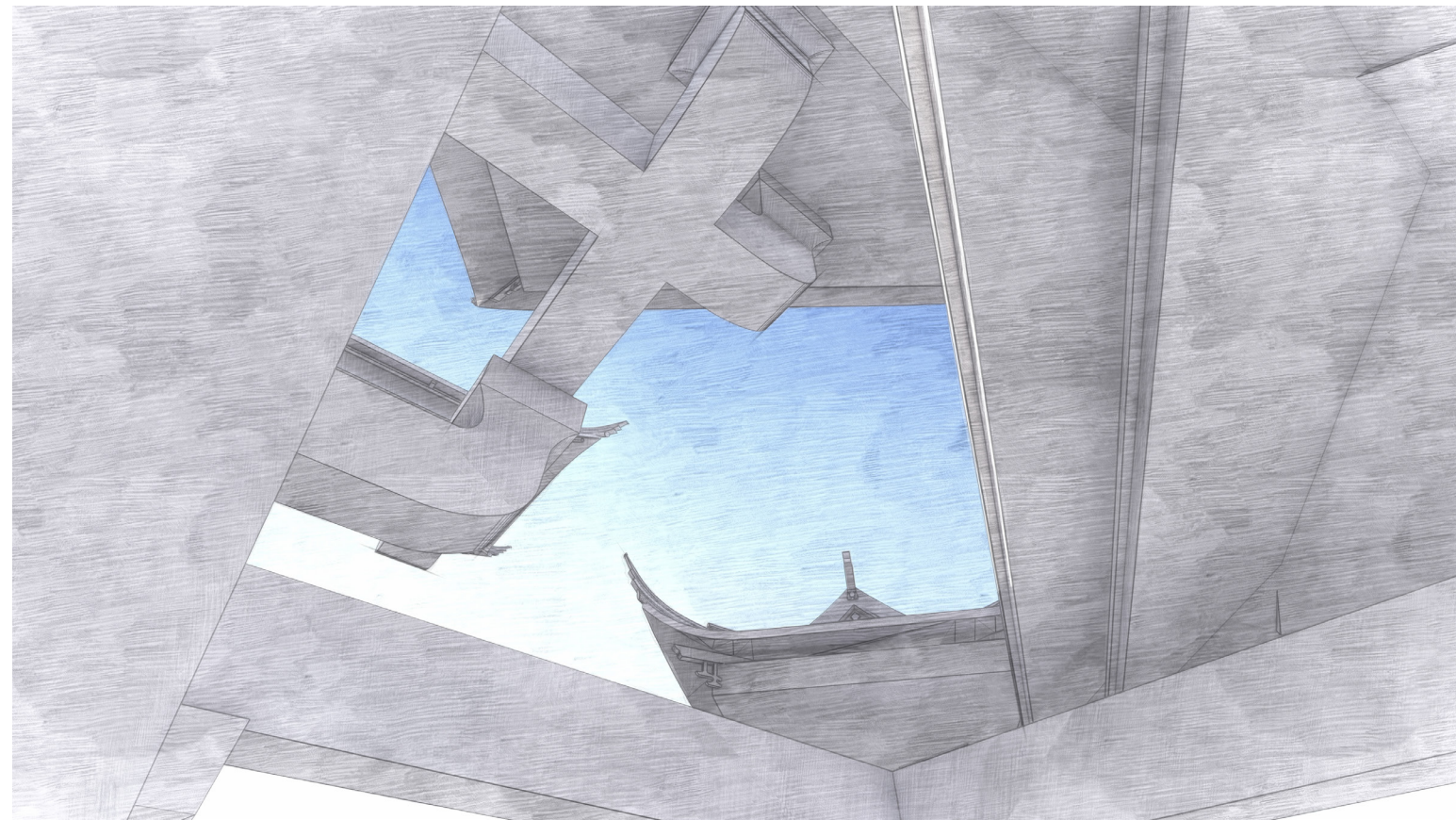
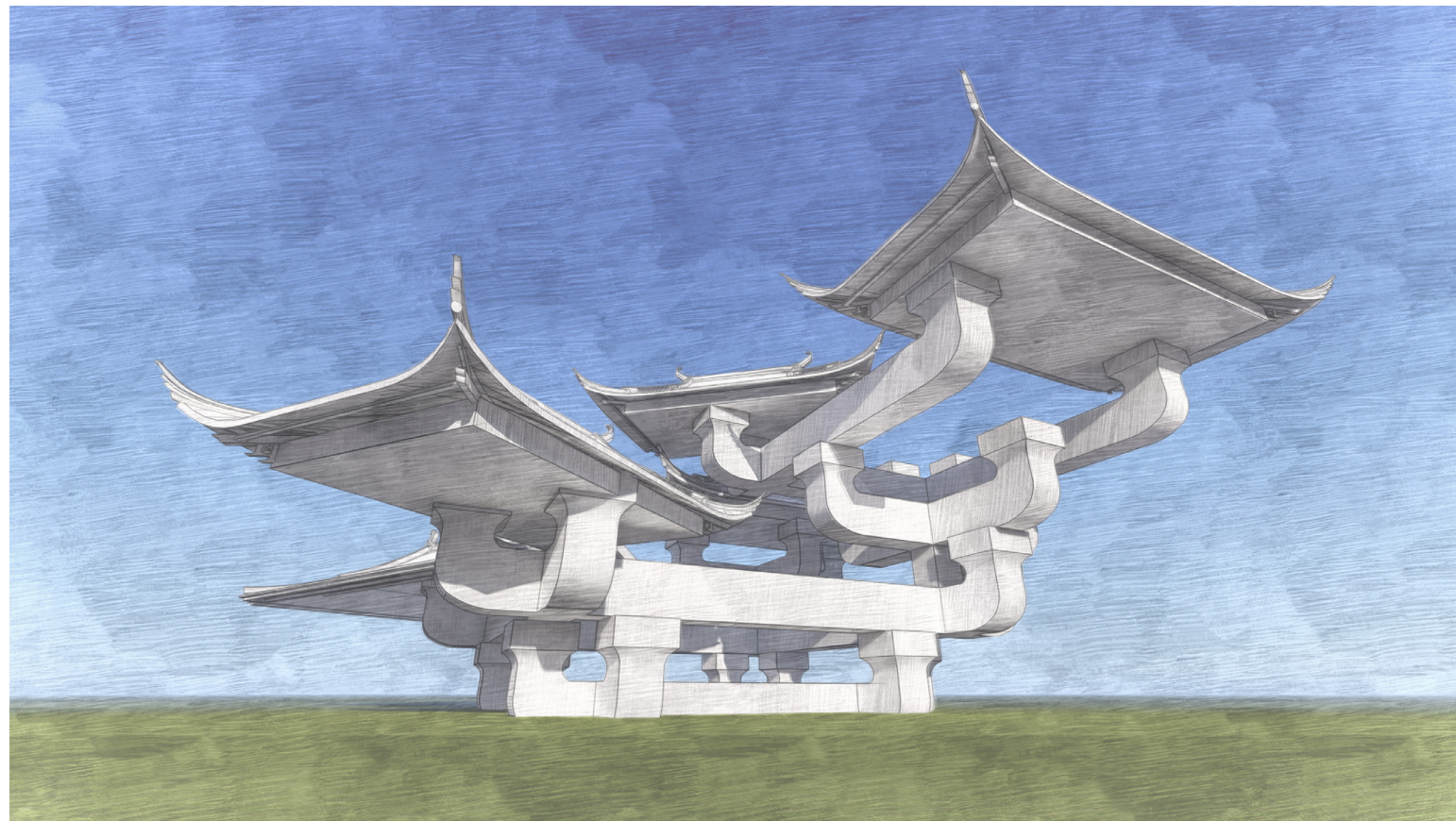


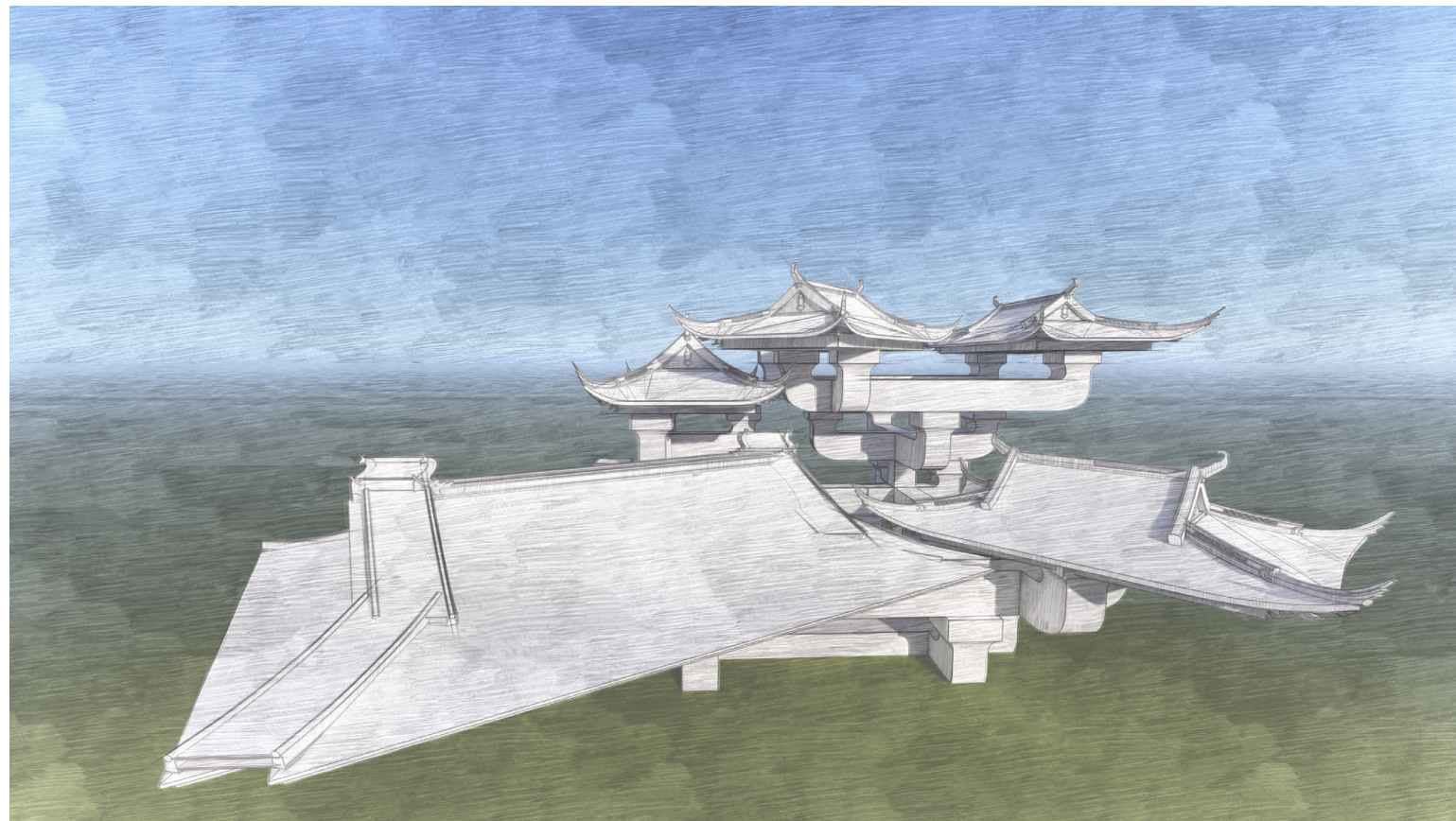


This iteration studied another traditional element of Chinese temples: the mortise and tenon structure.

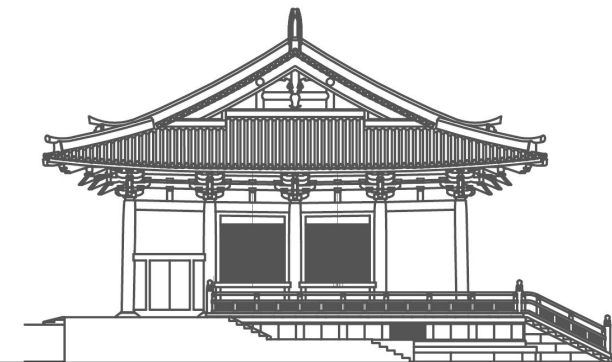
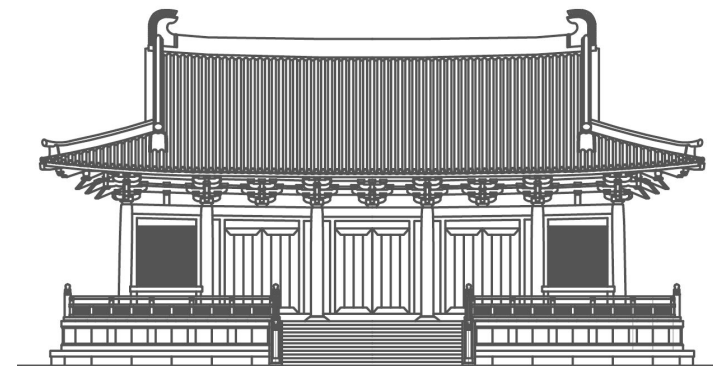
In this particular study, the mortise and tenon structure was scaled up to explore the feasibility of employing it as the main structure of the building.

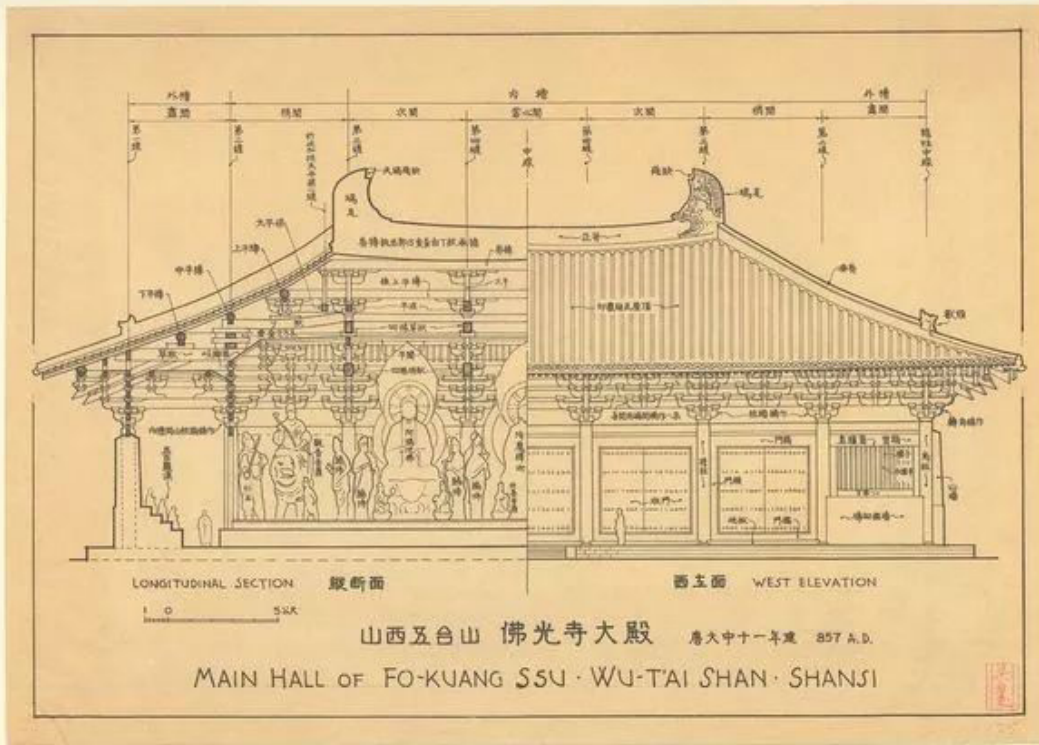






The roof is an integral part of the Chinese temple. The next set of explorations will focus on the eaves of the traditional temples, simplifying the complex structures that support them in the search for new interpretations.





Section of Main hall of Wutai Mountain Foguang Temple
By Liang sicheng



The design features of cornice roofs

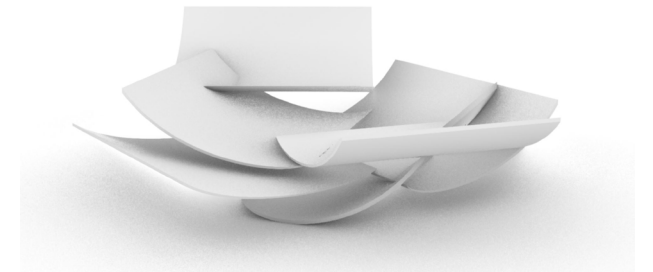
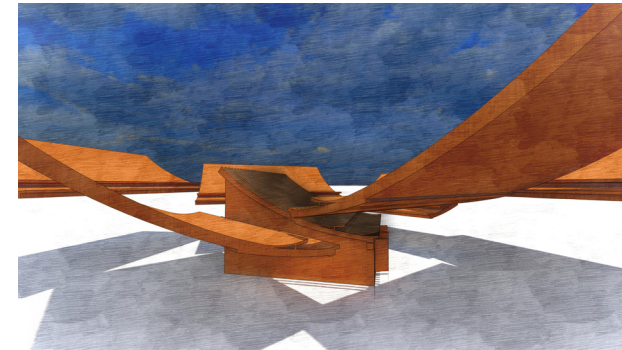
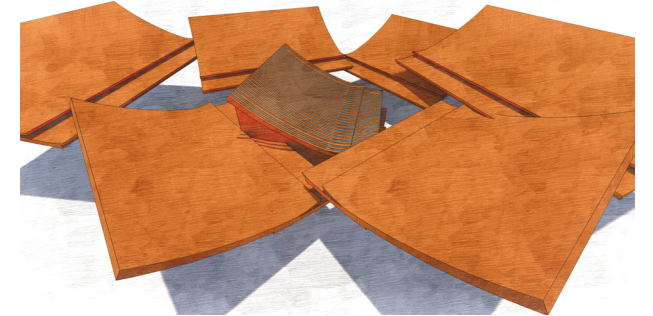
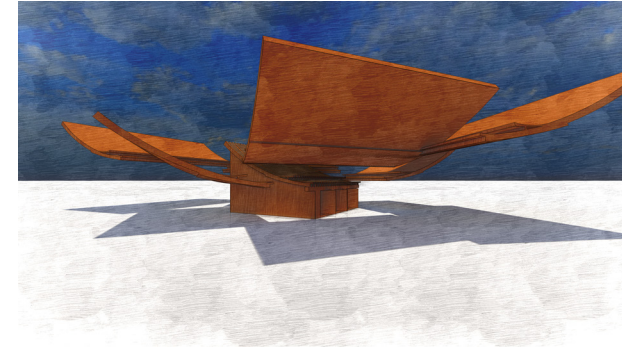
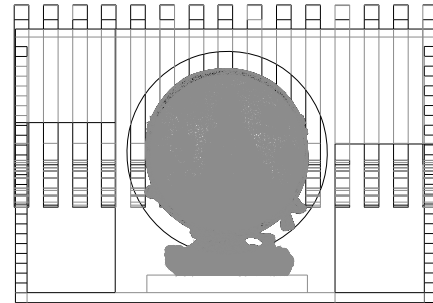
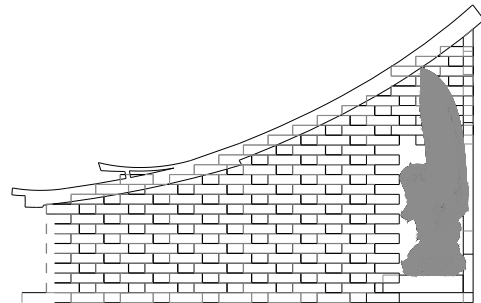
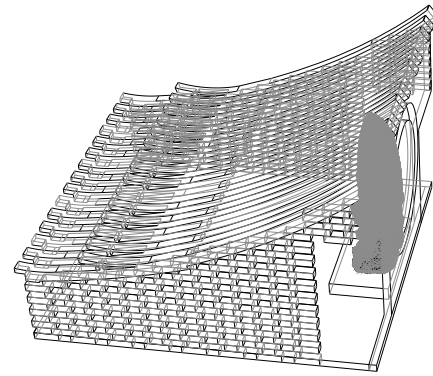
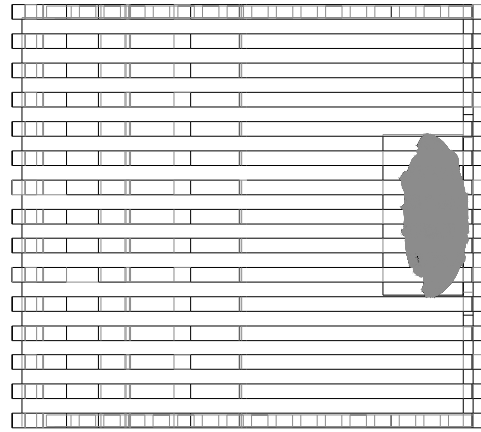
The cornices are tilted outwards, forming a layered overhanging structure, adding a unique visual effect to the temple.

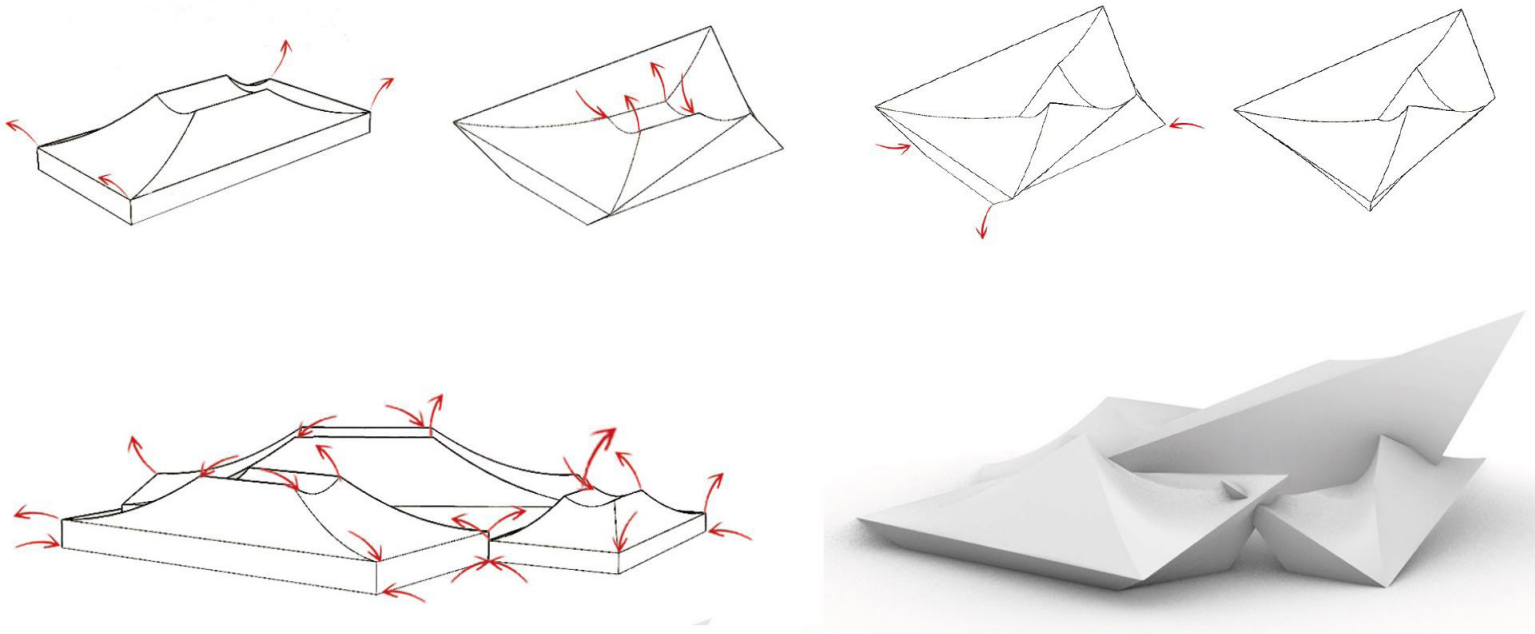
Creates beautiful lines and a sense of movement.

The form of the cornice symbolizes the path to liberation in Buddhism, implying that people can transcend the constraints of the world and achieve spiritual freedom and sublimation through faith.

A new roof design was developed by studying the curvature of the eave. Multiple roofs were then arranged to give form to the new temple complex.

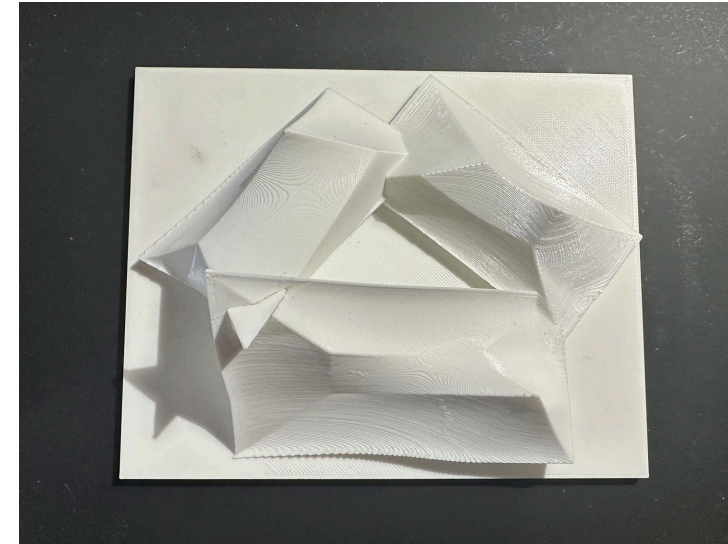
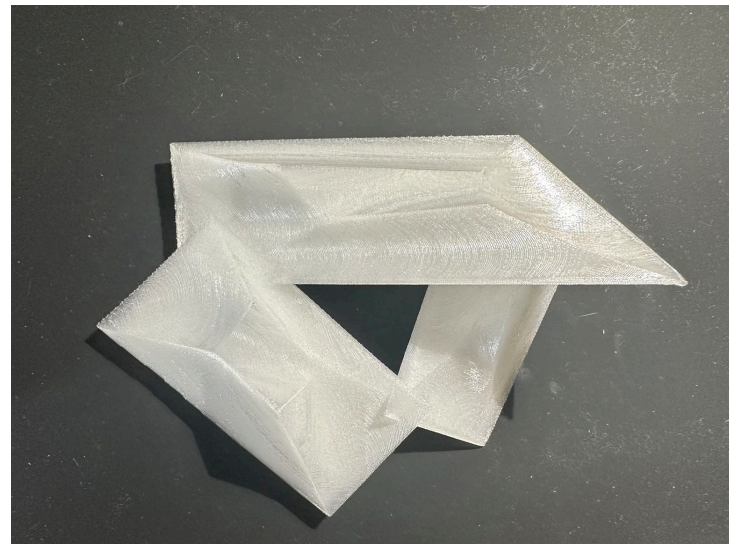
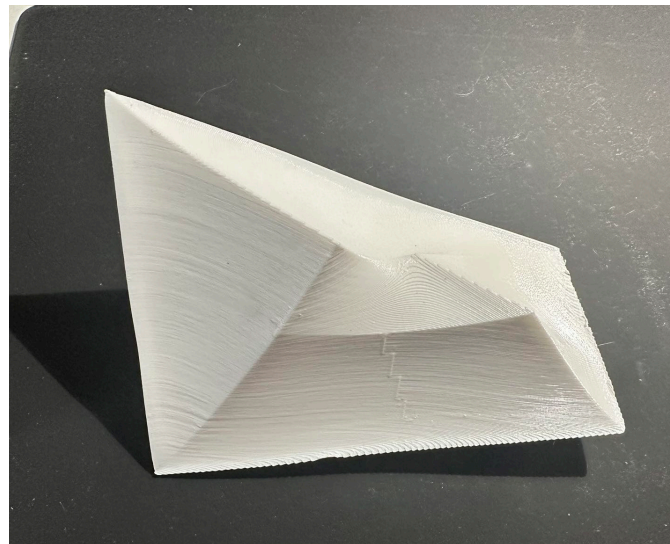
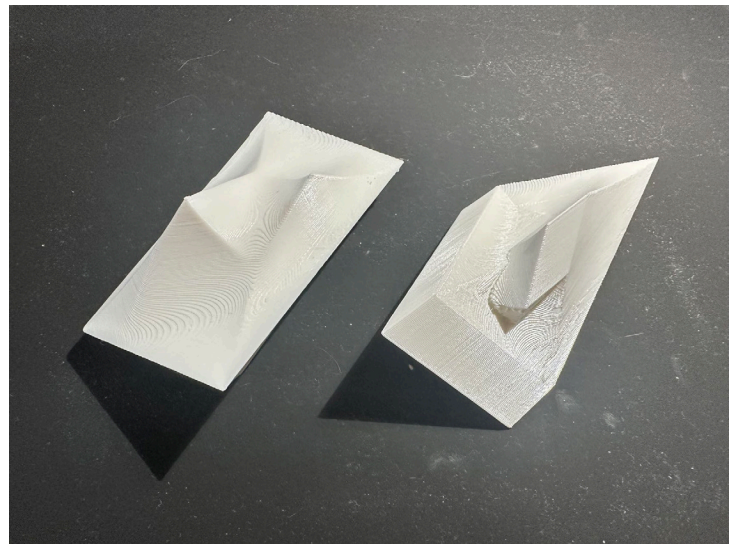






The traditional temple roof was simplified, resulting in 9 surfaces and 12 corners. The varying shapes were then arranged and combined with the position of each corner adjusted.

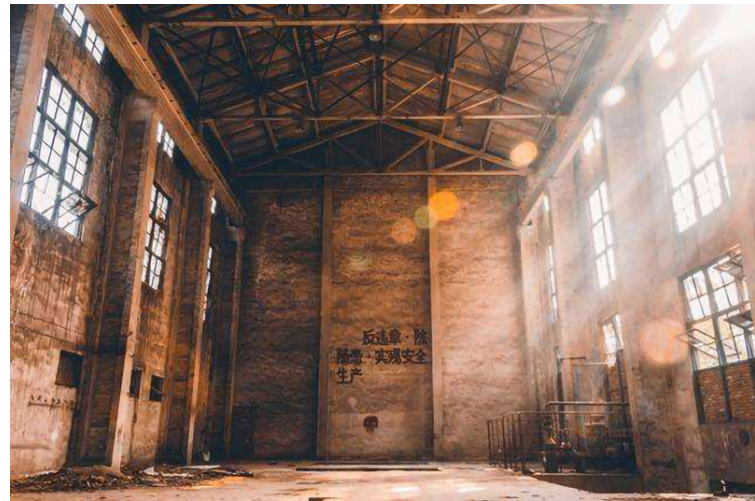


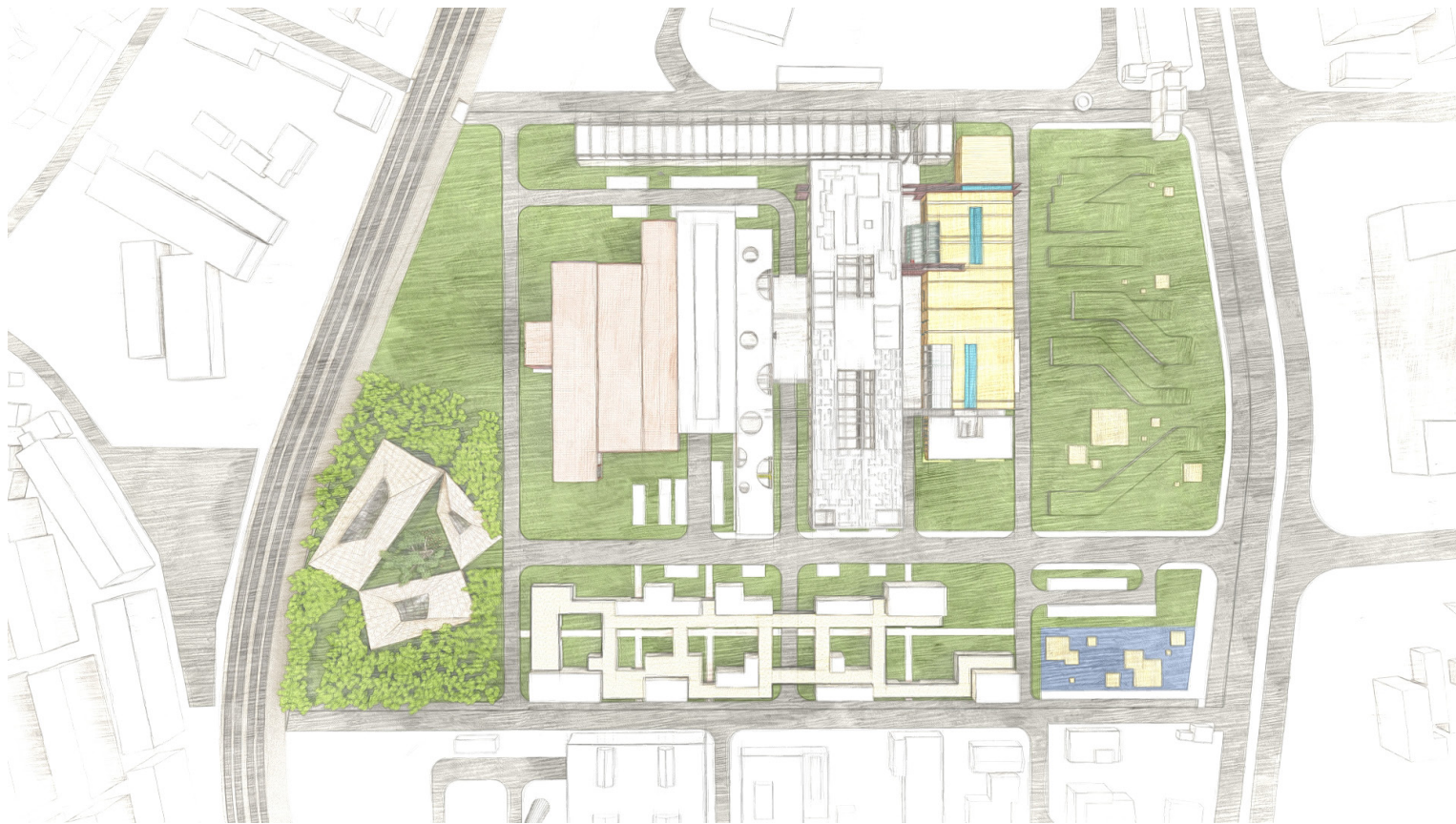




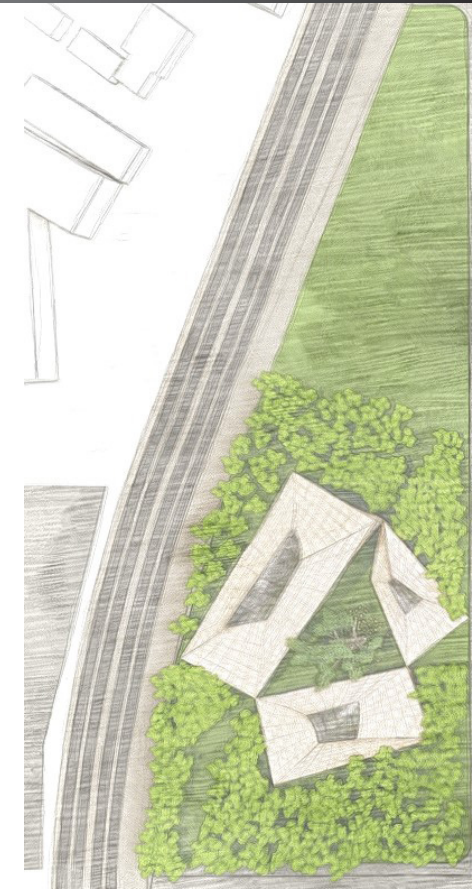
Location: Hansteel Factory Area, Wuhan, China

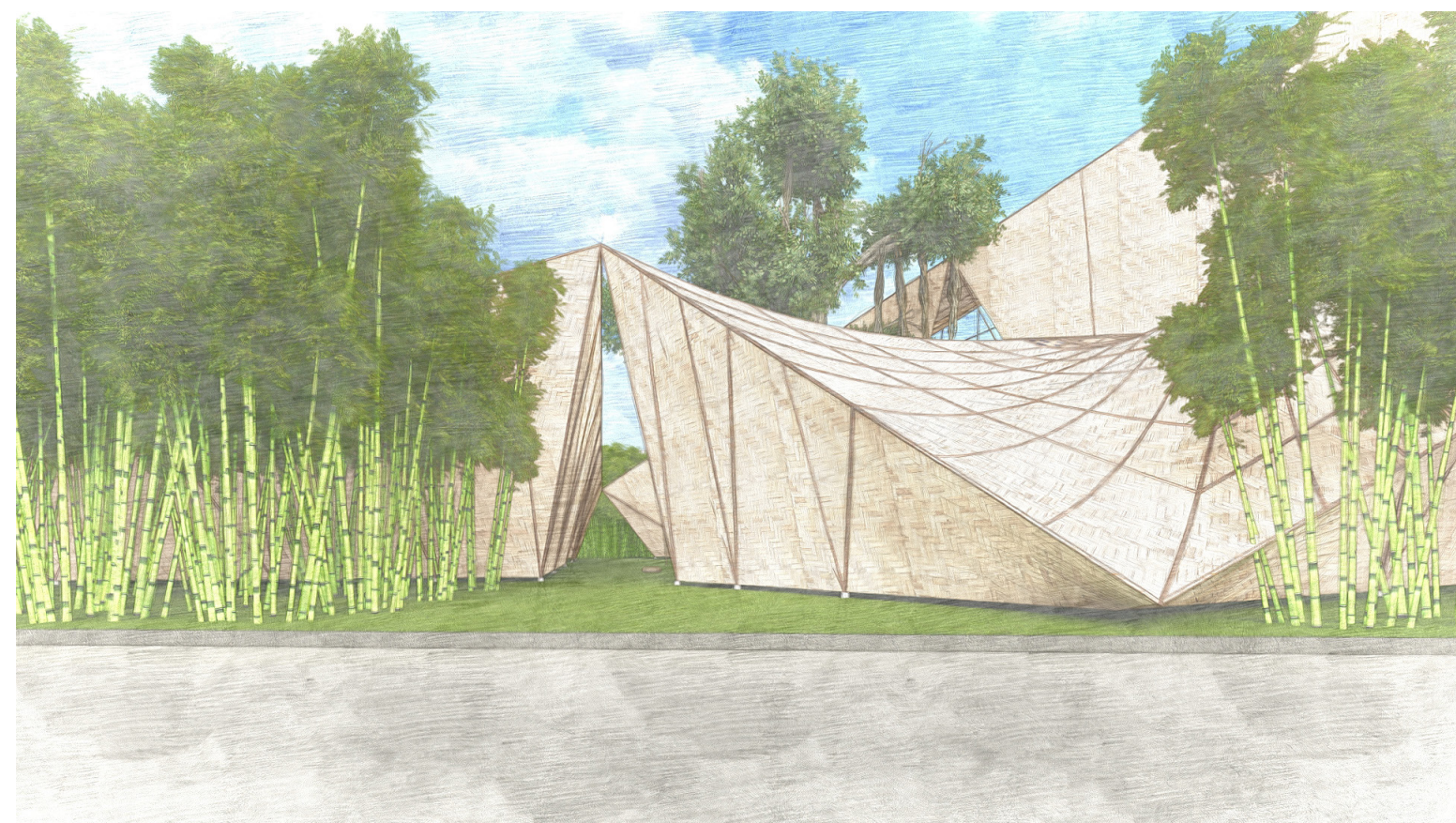
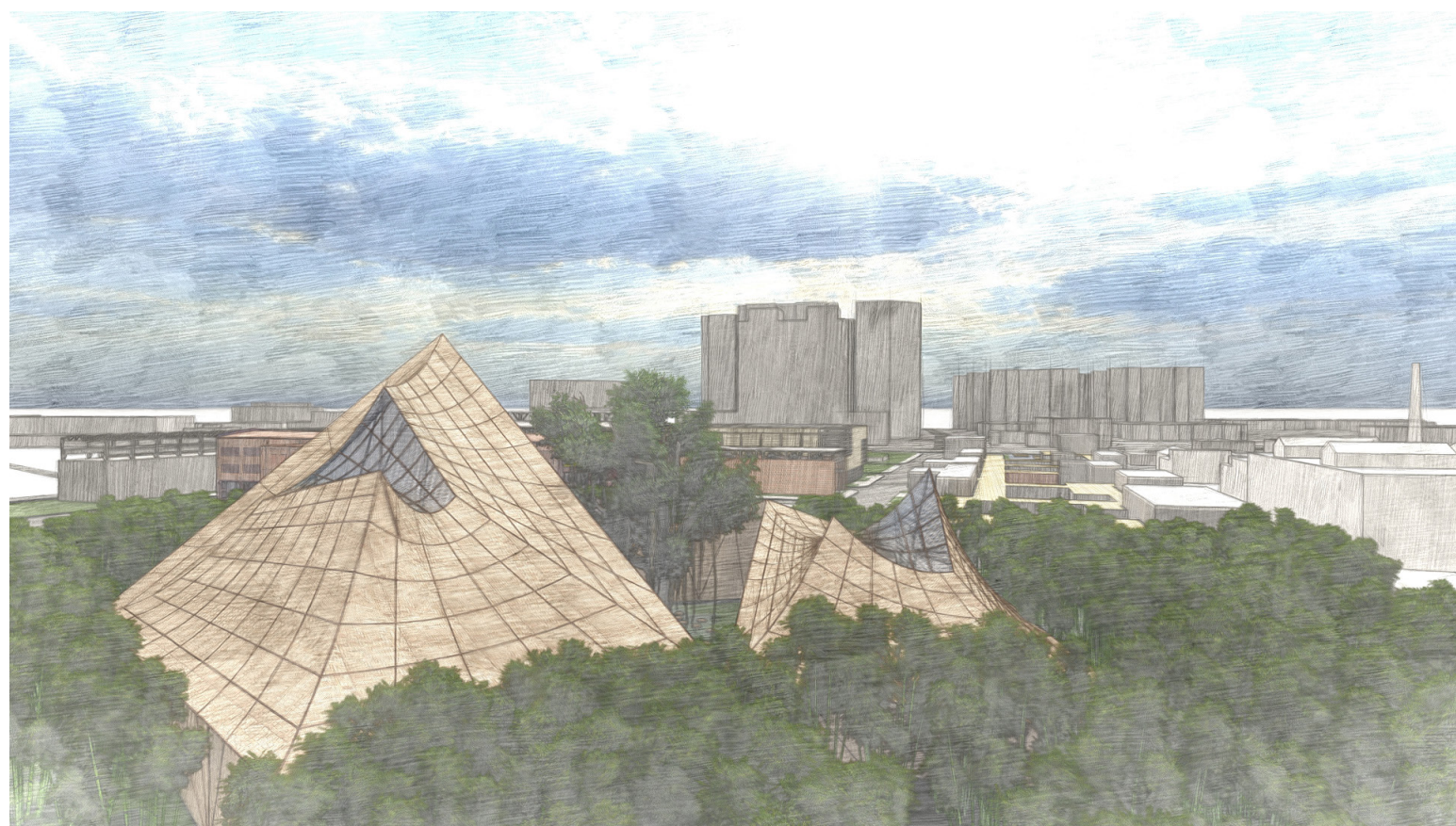
In order to reflect the collision and fusion of modern and traditional. The site was selected in an area with visible layers of history. This factory area was built in 1891 and was the first modern steel company in Asia. However, it was abandoned toward the end of World War II. After the establishment of China, this factory restarted operations but was abandoned again around the year 2000 due to the high cost of technical updates. Currently, like many other old factories, it offers new opportunities for development.





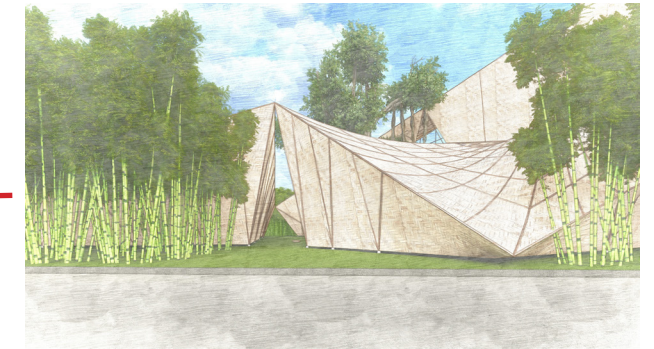
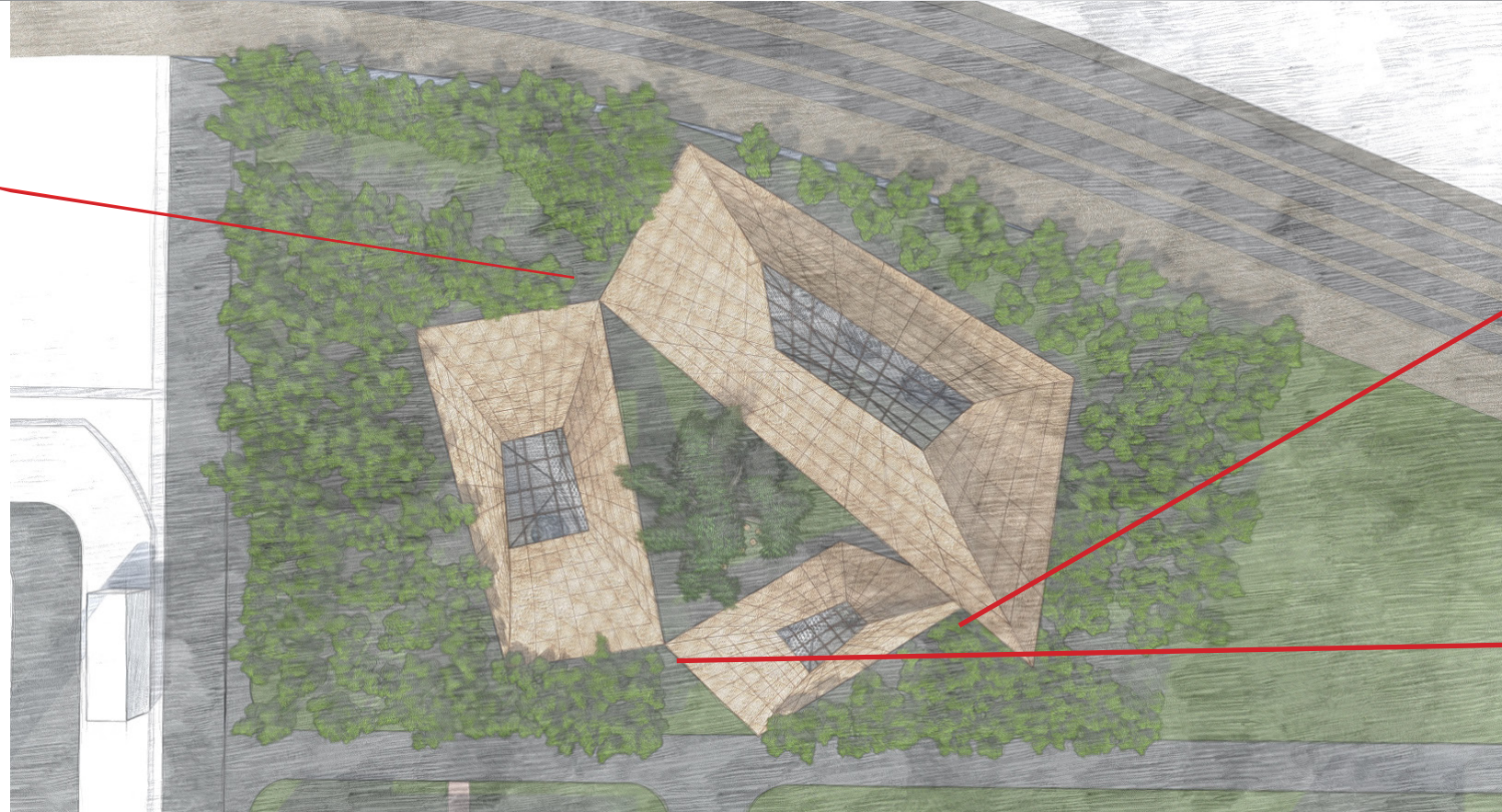
This site was chosen because it can express the fusion of old and new that this thesis hopes to present. This site is an old steel factory with a history of 130 years. But with the rapid development of society, it has been surrounded by residential and commercial areas. However, with the renovation of the site, this old factory area is slowly completing the transformation from old to new. Just like this thesis design, the old and the new are integrated and nourish each other.







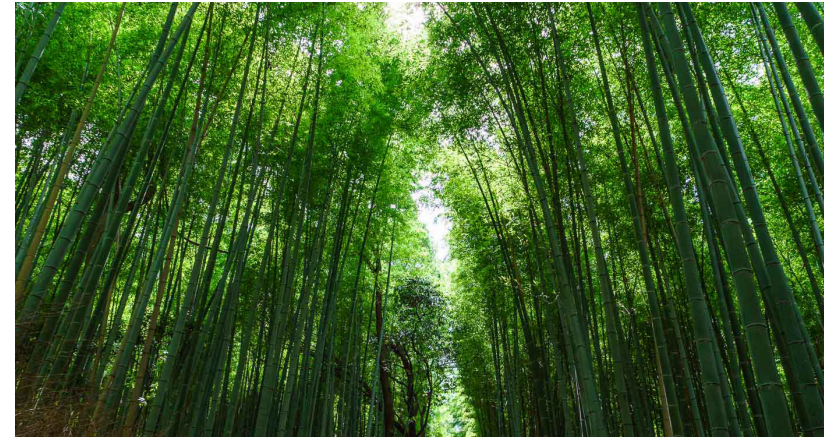
This design has three entrances, because the number three has a high status in Chinese religion to indicate its importance. Each entrance is composed of the corner of the building itself and the side of the adjacent building. One of the entrances faces the main street of the factory, while the other two are led to the edge of the factory by the surrounding bamboo forest.





Bodhi: Grow at the center of the courtyard

The Bodhi tree has a very important symbolic meaning in Buddhism, which is said to be the place where Buddha attained enlightenment. It represents a symbol of awakening and wisdom. In Buddhist culture, the bodhi tree also symbolizes growth, transformation and liberation. Its roots grow deeply in the soil, representing the tenacity of life and existence rooted in the real world; while its leaves represent all living beings, just like the wisdom of the Buddha, which can help people free themselves from suffering.



Bamboo's symbolic significance:

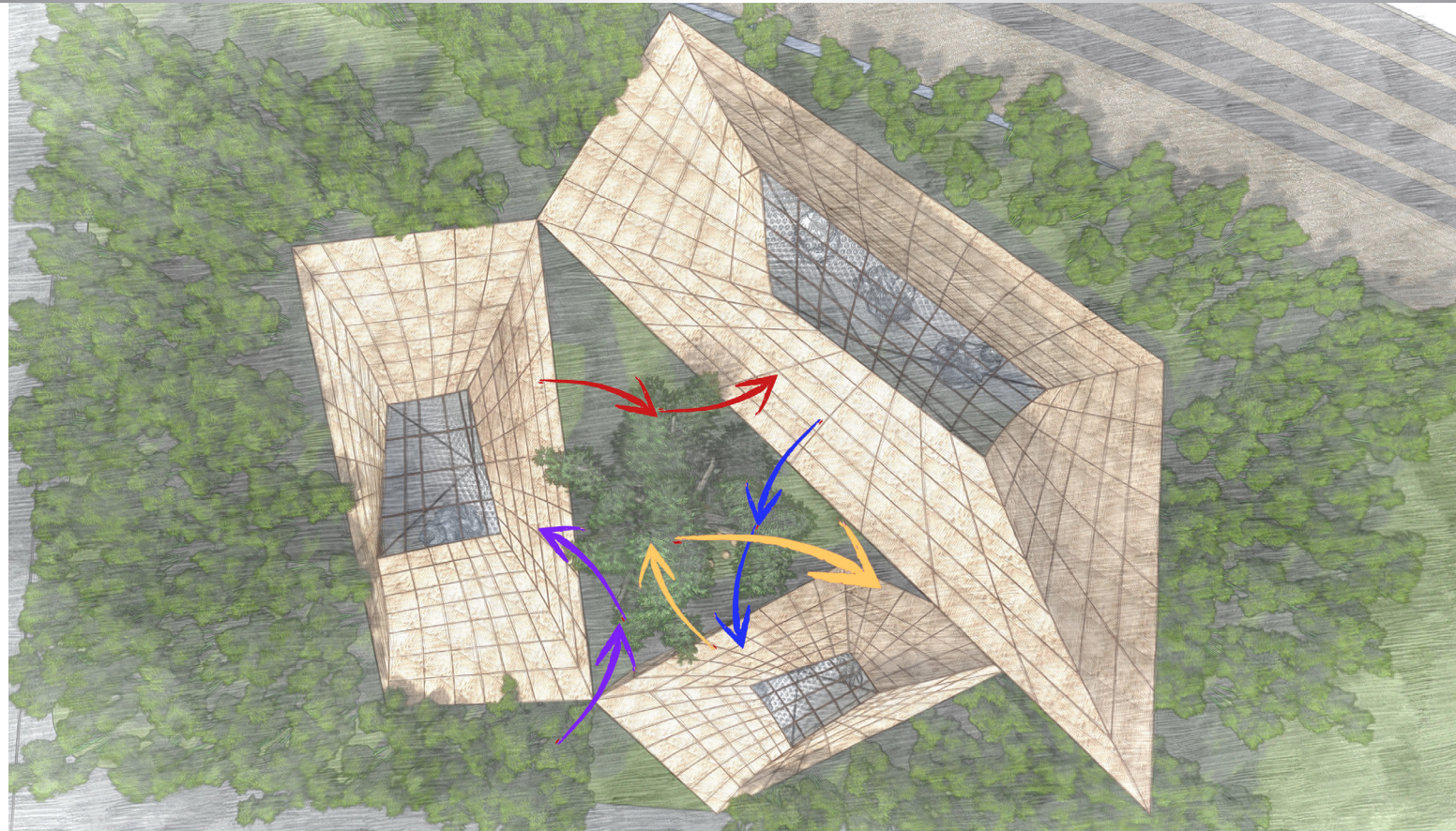
1. The quiet environment of the bamboo forest and the emerald green of the bamboo leaves are often regarded as a symbol of purity and emptiness to pursue inner peace and detachment.
2. Bamboo grows tenaciously and is often regarded as a symbol of adapting to nature and following the trend.
3. The hollow core of bamboo symbolizes the realm of emptiness and enlightenment. In Buddhism, the bamboo forest is also regarded as a symbol of the path to liberation for practitioners.



Three-entry courtyard:

The three-entry courtyard of a temple is a common form of traditional Chinese temple architecture. It is usually divided into three courtyards: front, middle and back. Each courtyard has its own specific function and symbolic meaning.

The structure of this three-entry courtyard embodies the three treasures of Buddhism: Buddha, Dharma and Sangha. Each courtyard represents a different symbolic meaning and function, embodying the core values of Buddhist teachings. At the same time, this structure also provides believers with a pure and pious place to worship Buddha and an environment for practice.

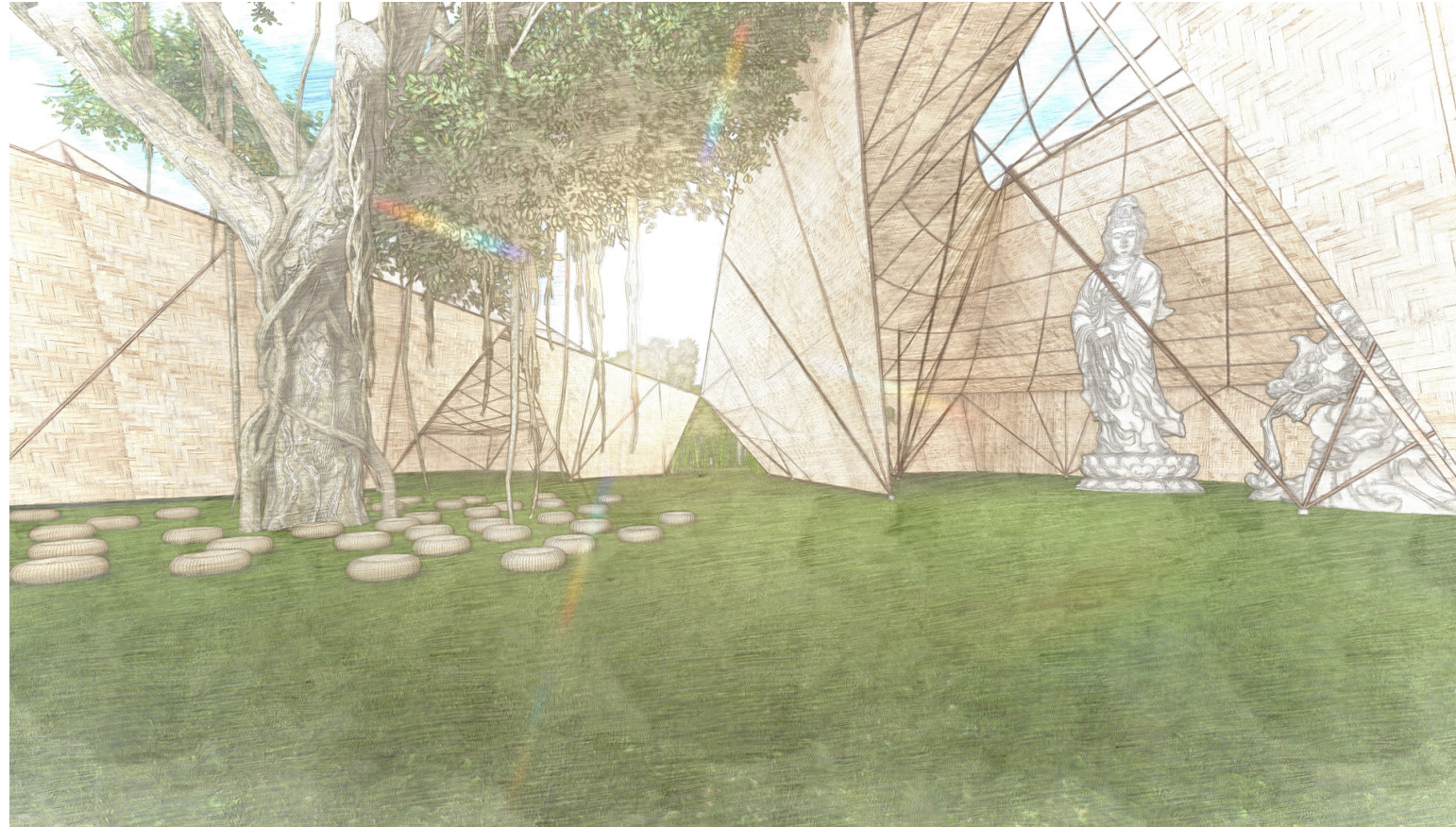


New three-entry courtyard:

The traditional three-entry courtyard, the courtyards mainly plays the role of connecting the building and provide for transition. In the proposed design, the connection method of the original courtyard is maintained but employing instead only one courtyard.

When people visit the temple , they enter the courtyard for the first time. Then they choose the temple they want to go to. When they come out, they will enter the courtyard again and choose their next destination, and so on. Visitors will enter the courtyard three times. The proposed design reinterprets the traditional temple, by allowing for the established Buddhist practice in a new layout now organized around a central courtyard. (As the middle picture show)

The courtyard has a huge Bodhi tree and many futons in the middle for people to meditate or rest.



Bamboo



Why Bamboo?

Lightweight and durable: Bamboo has a relatively low density, making it lighter than wood and easier to handle and construct. Although lightweight, bamboo has excellent mechanical properties, with high compressive, tensile and flexural strengths, making it useful as a structural material with excellent durability when properly processed and used.

Environmentally friendly and sustainable: Bamboo is a natural, renewable resource with a short growth cycle and fast renewal rate. Therefore, using bamboo as a building material is beneficial to protecting the environment and ecological balance. In contrast, wood has a longer growth cycle and logging has a greater impact on the forest ecosystem.

Thermal insulation: Bamboo has good thermal insulation properties, which can effectively reduce the temperature difference between indoor and outdoor areas, improve building comfort, and contribute to energy conservation and emission reduction.

Aesthetic culture: Bamboo has a special status in Asian culture and is regarded as a symbol of elegance, freshness and vitality. Therefore, using bamboo in buildings can increase the beauty and cultural connotation of the building.

Case Study of Bamboo

Case Study of Bamboo



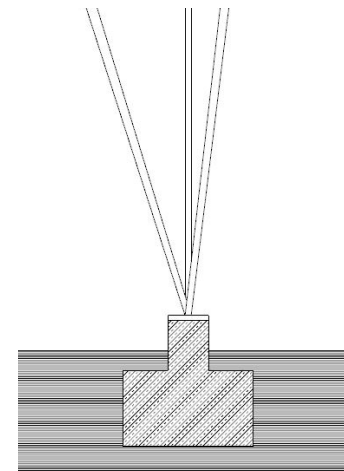
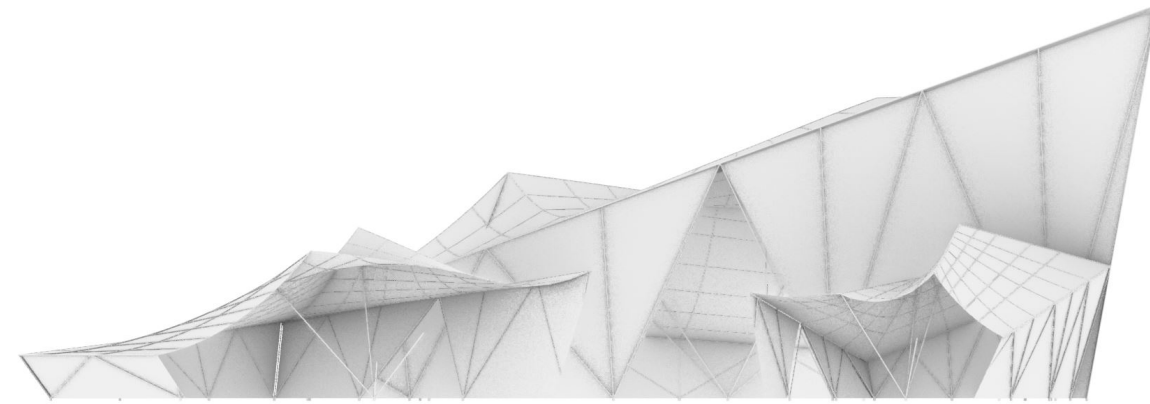
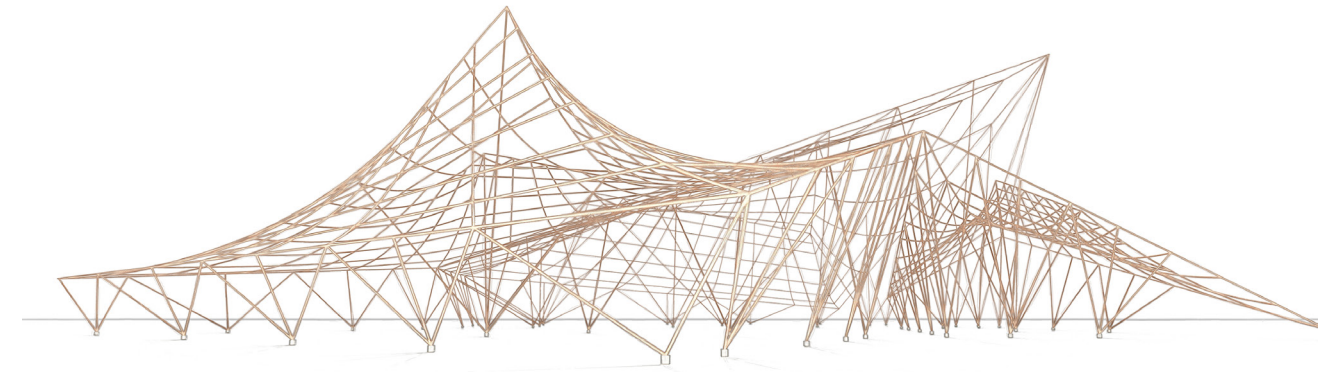
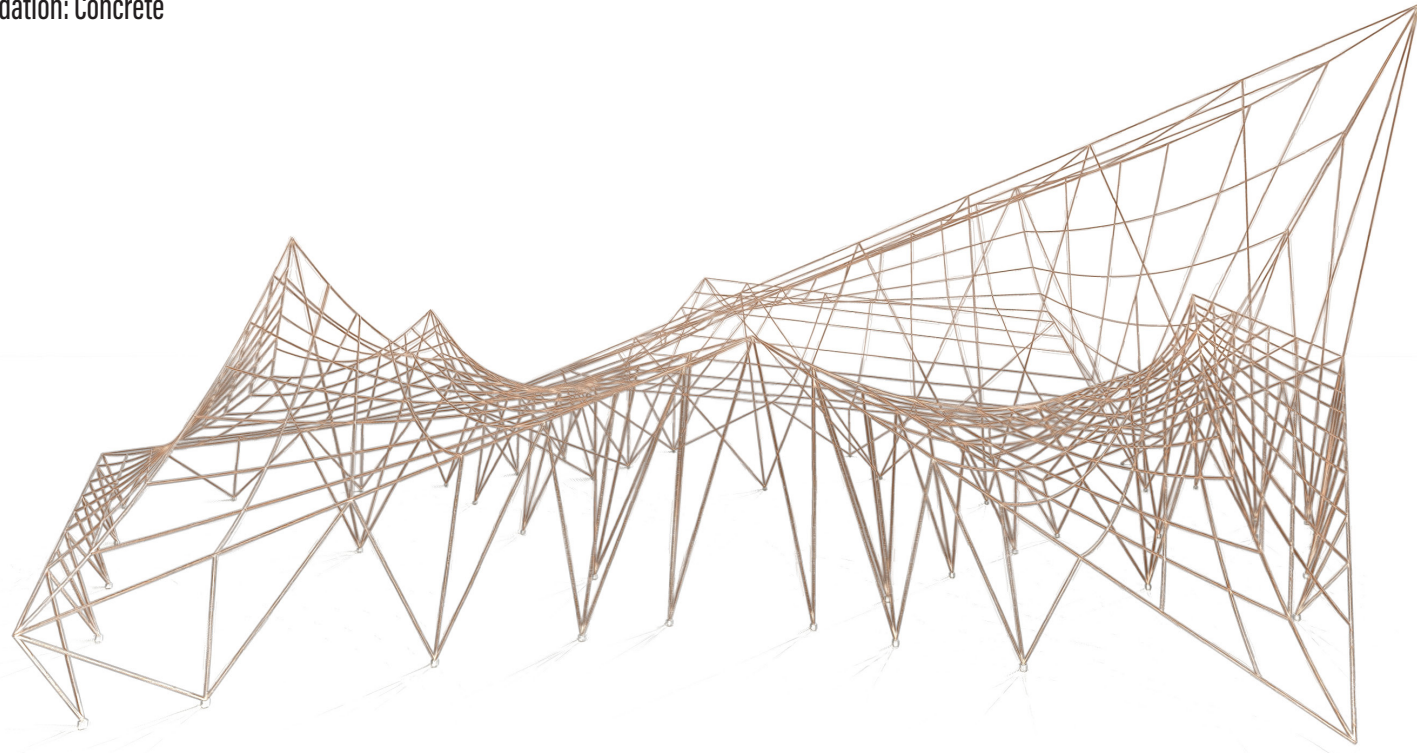
Kontum Indochine Café
 by Vo Trong Nghia Architects.
 Vietnam

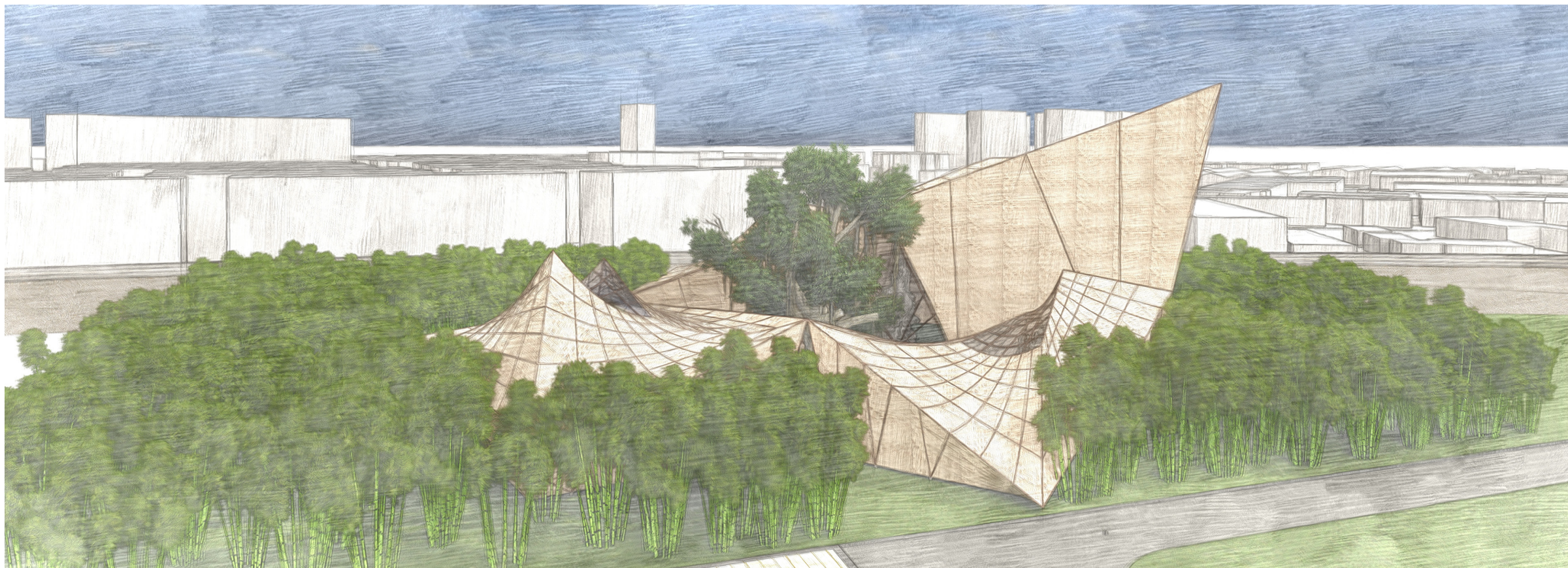


Hay Hay Restaurant and Bar
 by Vo Trong Nghia Architects.
 Vietnam

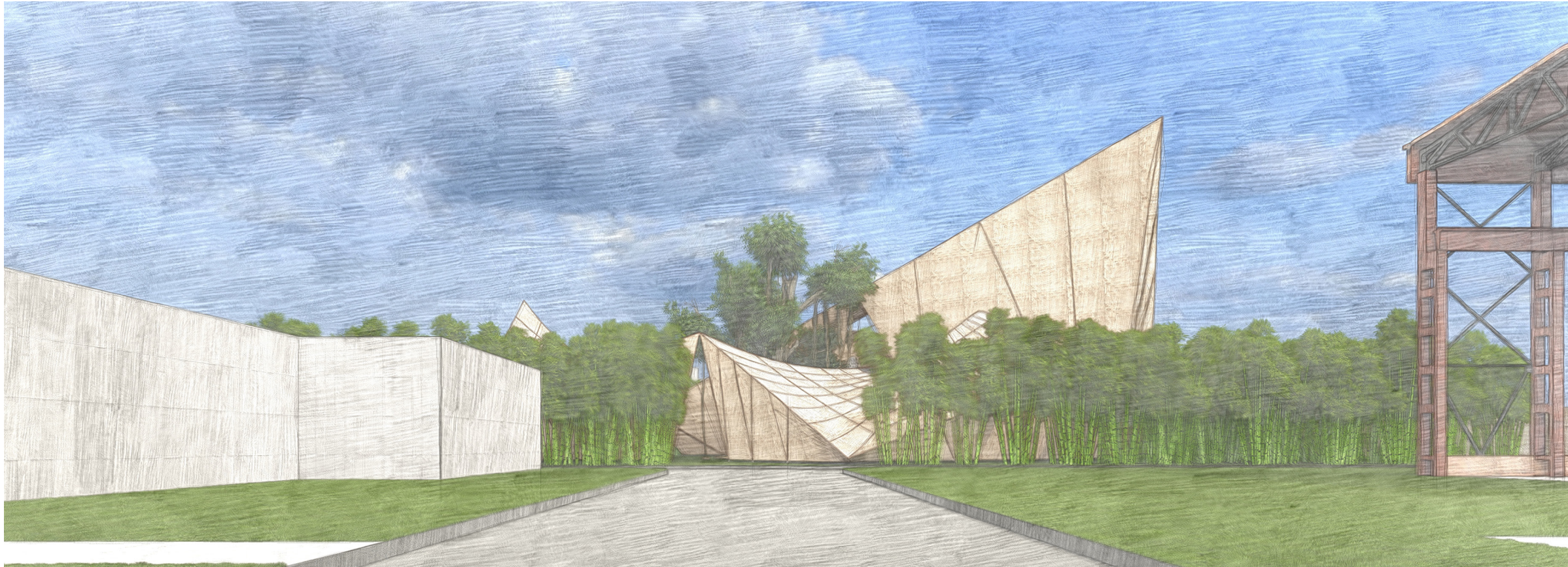
Main Structural Material: Bamboo

Foundation: Concrete

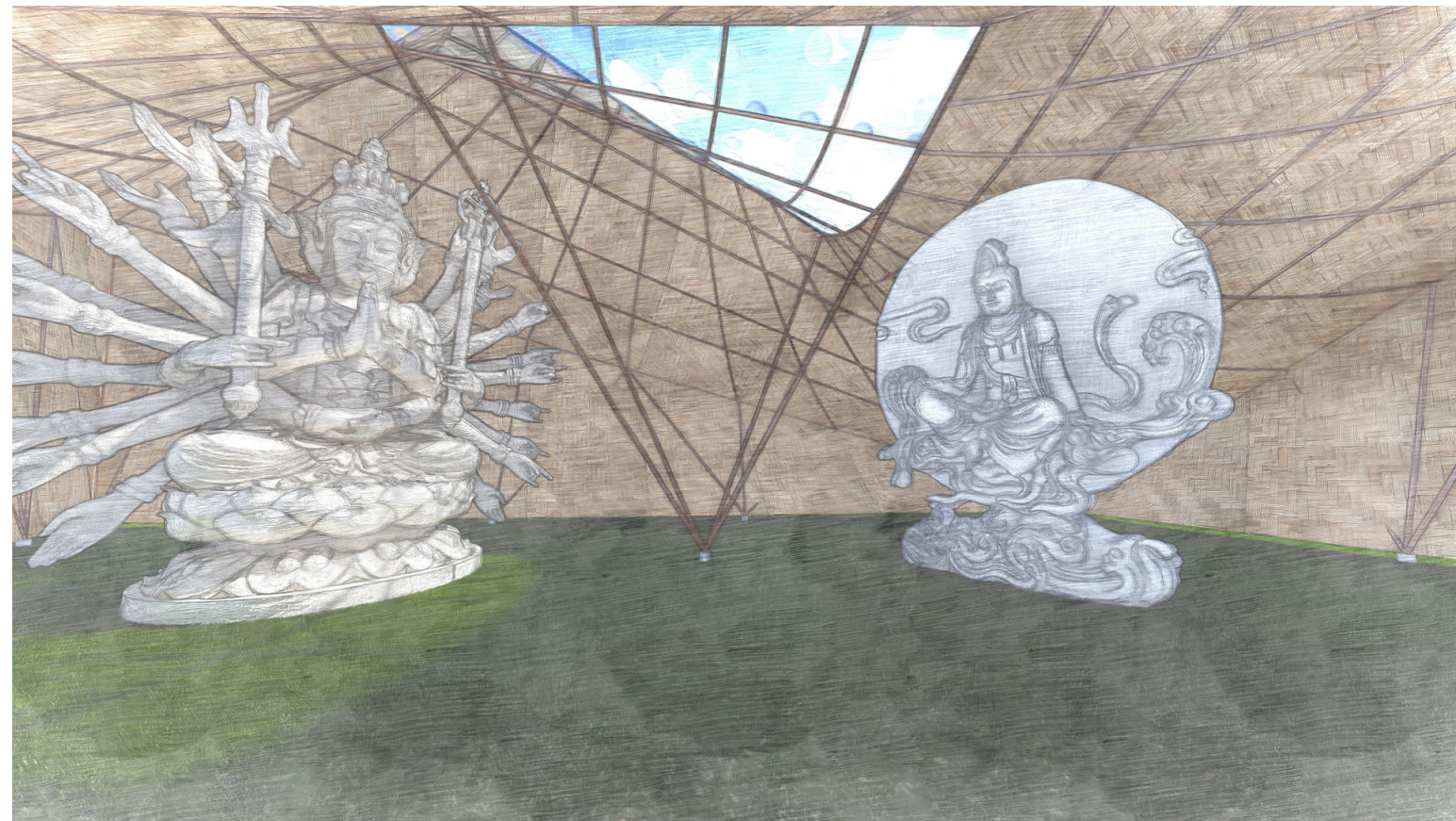
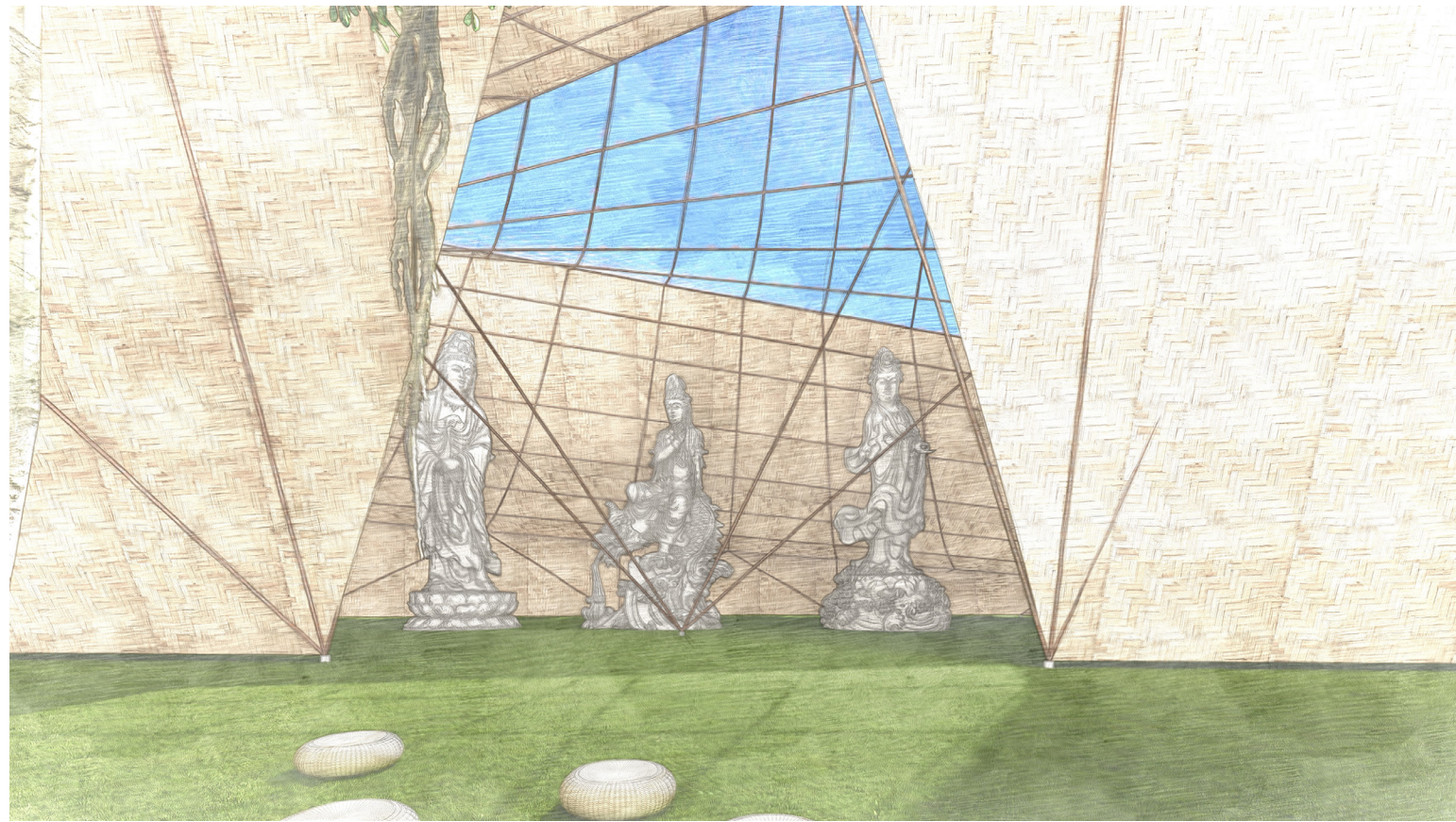




This rendering shows the relationship between the building and its environment, surrounded by bamboo forests and with a modern residential area behind it



Looking from the main street of the factory area, you can see the old factory buildings on the right side of the road and the newly designed concrete buildings on the left, as well as this design that combines tradition and modernity.





The facade does not directly touch the ground but is stopped 30 centimeters above the ground, which is the upper end of the foundation. This allows for better air circulation and can control the indoor temperature.



The facade is made of bamboo. This material is very light and easy to install. It can block most of the rainwater. A small part of the rainwater that penetrates will flow to the ground along the texture of the facade.

The first choice of material is bamboo, which is a renewable resource and environmentally friendly.

In order to maintain the Buddhist idea of conforming to nature, no modern lighting facilities and air-conditioning systems are installed inside this building. In other words, lighting relies on the sun, cooling relies on the wind, and rainwater will also enter the building, just as the Buddha did during his ascetic practices, finding relief in nature.



1. Gate --- Entrance

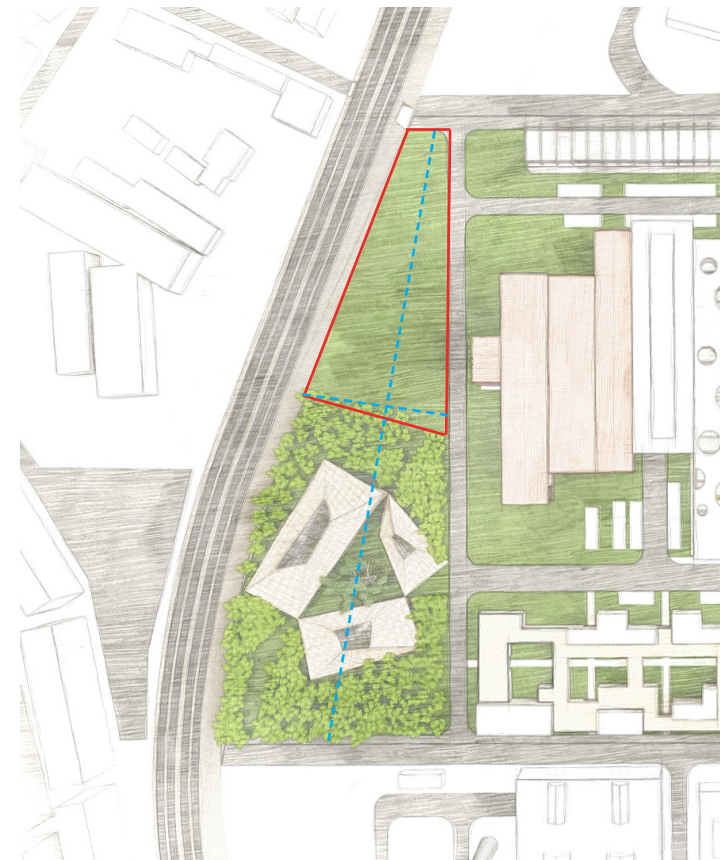
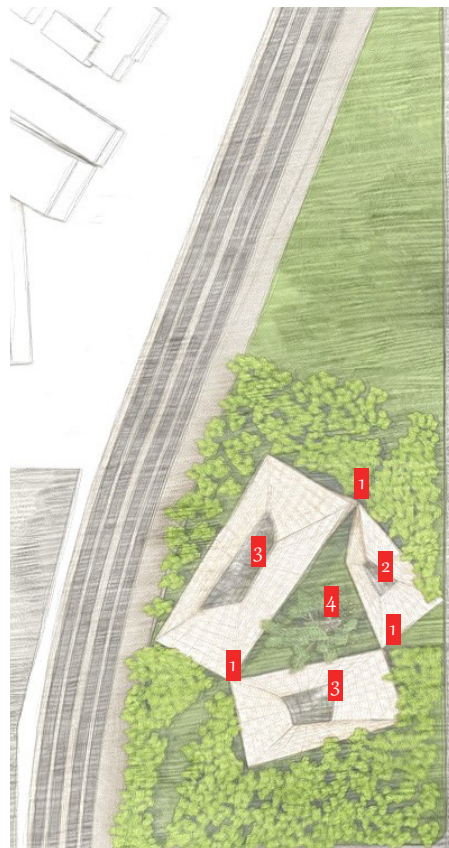
In order to better enhance the mobility and safety of the space, the number of entrance was changed from one to three. The traditional temple had a separate building as the entrance, but in this design the entrance is composed of the intersection of three buildings.

2. Hall of Heavenly Kings

3. Main Hall

4. Dharma hall

In traditional temples, this is usually a separate building, but there are also temples that place this scene in an outdoor courtyard to accommodate more people. This design omitted this building and gave its function to the courtyard. , because nature is a very important element in Buddhism, and chanting and lecturing are more meaningful in the natural environment.



Other ideas for the site

The red area is an entrance to the complex. The depository of Buddhist sutras and canteen (dinning hall) can be located in the red area as well, making all the traditional elements of the temple fully present.

The Bell Tower and the Drum Tower can be set at the intersection of the two blue dashed lines, because the towers can define the space in the form of sound, it is appropriate to place them at the center point of the entire site.

In China, traditional design has a history of thousands of years. It is a cultural heritage of China and the world, so traditional buildings need to be protected so that people in the future can feel and appreciate the charm of traditional art.

But in our current society, science and technology are developing rapidly, there are many high-rise buildings, and various new building materials have been invented. Therefore, we should combine our era and history, combine traditional art with modern technology, and design buildings that are in line with the current situation.

How can contemporary architecture design be integrated into the construction of traditional temples while preserving their original significance?

Replicating traditional architecture does not make sense, but extracting elements from traditional architecture and transforming them will present a different scenery. In this design, the roof of the traditional temple was extracted and transformed, retaining its unique curves and upturned forms, retaining the soul of the traditional building, but re-giving the body of contemporary architecture.

How can traditional elements be modernized?

Traditional Chinese buildings are more complex and have inherent templates in their designs, so they all have similarities. Moreover, the construction process requires too much manpower and material resources. However, these do not fully meet contemporary people's expectations for architecture.

Therefore, breaking the inherent template is a must for modernization. The proposed design, breaks the symmetry of traditional architecture and makes the vertical stress-bearing structure curved employing bamboo, a highly malleable a highly malleable material.

The facade also changed from a rectangular shape to an irregular polygon based on the new structure.

The elements of traditional architecture are limited by the materials and technologies of the time, so the use of modern technologies and materials would be an important way to modernize traditional architecture.

How can religious elements be preserved while modernizing the architecture?

How can religion be modernized?
Does religion need modernization?
Will a cyberpunk Buddha still be accepted by people?
In the past thousand years, everything around us has undergone tremendous change, but religion itself seems unaffected by it. It is the sustenance of people's spirit and the foundation of people's spiritual world. Perhaps keeping the religious element is the best solution.

But design can redefine space and reflect religious ideas in a new way.

In other words, design can provide a new space for religion, and religion can provide design a new "spiritual" value.