

# Architectural Expression of the Concept of Yin and Yang

## From Traditional Architecture to Modern Architecture

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**Abstract**—The concept of Yin and Yang is a core content of Chinese traditional philosophy, and is the basic understanding of the universe constitution. The concept of Yin and Yang has a profound impact on all aspects of Chinese traditional culture, including traditional architecture and modern architecture. But the traditional architecture and modern architecture have used completely different language forms in expressing the concept of Yin and Yang. The paper analyzes them in depth through examples.

**Keywords**—The concept of Yin and Yang; traditional architecture; modern architecture; vocabulary expression

### I. INTRODUCTION

"Yin" and "Yang" can be considered as a pair of the most basic and core category in Chinese traditional philosophy, and are the basic understanding of the law of the universe constitution. Among the sixty-four divinatory symbols in "Zhouyi", except for Qian and Kun, respectively representing Yang and Yin, the rest divinatory symbols all consist of two trigrams, Yin and Yang, just like that "the universe contains yin qi and yang qi" in "Lao Tz Chapter 42". All things are the synthesis of "Yin" and "Yang". It is a natural law that "Word"("Tao") is the interaction of Yin and Yang. Things only consisting of Yin or Yang would inevitably develop to the other side, and they couldn't last long. Yin and Yang are seemingly opposite, but they can not be divided. Yin and Yang are mutually promoted and generated, and are "opposite and complementary" all the time.

The traditional Five Elements Theory can be considered as another interpretation of the concept of Yin and Yang. The universe is summed up into five activities or agents with different features, including "metal, wood, water, fire and earth" [1]. The five elements are in mutual inter-generation and inter-resistance relationship which can be considered to be "opposite and complementary" in other words.

The further extension and application of the concept of Yin and Yang in different fields have a profound impact on all aspects of Chinese traditional culture. For example, the seal design is with red character and white background or white character and red background. Both are Yin and Yang

to each other, setting off each other "Fig. 1". For another example, in cursive works, the white background and the ink handwriting constitute the relationship of Yin and Yang. The unbridled, bold and unrestrained black lines partition the white paper, forming a rich contrast "Fig. 2". The called "vivid artistic conception" in Chinese traditional painting reflects the theory of Yin and Yang in essence. The thickness and thinness of ink and the ink color and white background mutually set off each other, producing a distant and deep spacious sense, and thus use "the few to defeat the many" and "the virtual to the real" "Fig. 3".



Fig. 1. The Theory and beauty of Yin and Yang in Chinese traditional culture—Cutting.

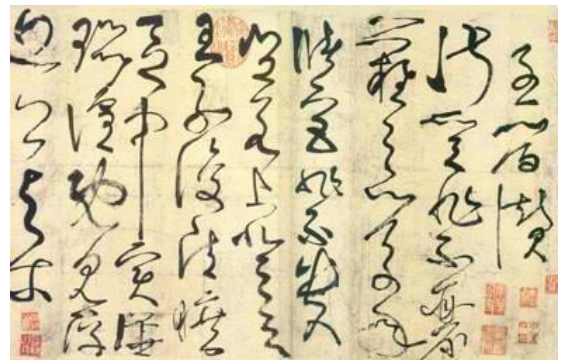


Fig. 2. The Theory and beauty of Yin and Yang in Chinese traditional culture—Calligraphy.



Fig. 3. Li Keran' painting.

## II. THE EXPRESSION OF THE CONCEPT OF YIN AND YANG IN TRADITIONAL ARCHITECTURE

Chinese traditional architecture is no exception. The traditional "geomantic omen" takes "Yin and Yang" and "five elements" and other concepts as the philosophical foundation, elaborating the spiritual influence of concrete operation methods and guiding principles on architecture, which are the most profound, the most unique part of Chinese traditional architecture.

### A. Coexistence of main and auxiliary colors

One of the characteristics of Chinese traditional architecture is the tendency of "colorization", that is to say, all buildings are largely multi-colored, and single-colored buildings are exceptional. However, the multi-colored composition causes no confusion in color, because a dominant tone exists no matter it is a single building, building group or a town to control the overall color appearance. If the main color covering the largest area is "Yang", then the auxiliary colors in small area creating a live atmosphere is "Yin".

The Forbidden City, notable as the highest level of building group in feudal society, is painted in the bright golden yellow and saturated red as its main color. Its auxiliary colors can be seen from the blue-and-green colored painting under the eaves, which relieves and smoothes the pressing and solemn vision of the Forbidden City.

Although the main color of northern dwellings are mostly gray owing to the use of blue bricks and terra cotta tiles, the wooden beams, columns, doors, windows and other components are painted in dark red or revealing the original color of wood, and the local woodcarving is painted in splendid color, which add vitality to the stillness...; the dwellings in Huizhou, Suzhou, eastern Zhejiang and other places are constructed of grayish black terra cotta tiles and pure white wall, which is an unmistakable contrast between Yin and Yang.

### B. Falseness-and-trueness Juxtaposition and Balanced and Orderly Structure

In Chinese traditional architecture, the four sides of a single building are different in nature, to be specific, the wall oriented south mostly has wooden grille and door leaves,

making it mild and approachable, and the other three sides typically are not installed with windows, creating a solid and tough appearance; this is also applied to building groups to present a style of conservative on the outside and open on the inside. These two opposite features coexist without conflict and enrich the architectural expression.

The building on the top of slope is the most widely distributed one in Chinese traditional architecture. For double eaves, multiple double eaves hall building or multiple double eaves tower building, the architectural form is composed of outward slope crest and inward building body, creating a layered composition and rhythm where tension and relaxation alternate.

### C. The Layout Where Existence and Non-Existence Lie Upon Each Other

Traditional Chinese buildings are mostly low-rise building and developed in crawling form. Its area expansion depends on the replication and composition of a single building, and it is a "graphic art" similar to seal engraving, calligraphy and painting and indicates the concept of Yin and Yang and aesthetic taste in the same way. It can be described as the magnified seal engraving, calligraphy and painting, but the medium for creation is the earth rather than seal stone, paper or silk, and both parties of Yin and Yang are no longer the characters or images in black ink and the space on the paper but the physical walls, corridors, windows, doors and other architectural vocabularies and the courtyard surrounded and limited by them.

The square dwelling, mansion, palace and even the whole city are arranged in a way similar to that of a seal: the external boundary limited by walls likes the frame of the seal, the building, corridor and partition which divide the internal space work like the red lines of the seal, and the courtyards in different sizes and structure like the space of the seal surface. Both the physical components and the "empty" courtyard are an integral part of the building. The landscape architecture in regions south of the Yangtze River has a picture-like overall layout and indicates the concept of "Yin and Yang" best: the buildings in residence part are intense, even well-organized, acting like the ink in painting, and the buildings in garden part are sparse and decorate the walls, corridors, pavilions, rooms and so on, acting like the space in painting "Fig. 4".

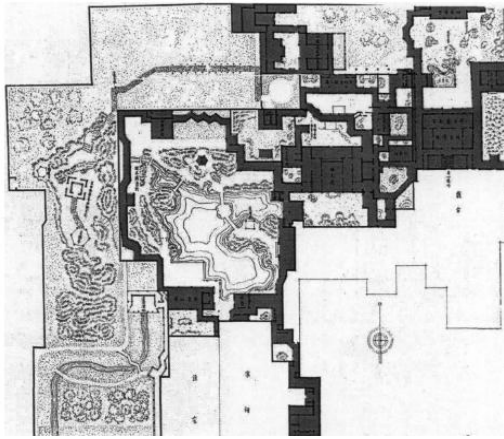


Fig. 4. Layout of Chinese Traditional Garden.

### III. EXPRESSION OF THE CONCEPT OF YIN AND YANG IN MODERN ARCHITECTURE

Does the modern architecture present the concept of “Yin and Yang”? The answer is Yes. However, compared with the traditional architecture, the modern architecture uses a totally-different language when conveying the concept of “Yin and Yang”.

#### A. Multiple comparison

Let us start with the work by Feng Jizhong - Helou Pavilion in Fangta Park, Shanghai. The fascination of the small building is rooted in its philosophical speculation - the comparison and interaction between light and heavy, curved and straight, static and dynamic, complete and incomplete.

Helou Pavilion, although inspired by the cottages in the area of Songjiang District to Jiaxing City, is more flexible than cottages because the roof is supported by bamboo frame painted in white rather than thick wall. The curved thatch is lightweight in the light, whereas the neighboring kitchen made of thick walls and short eaves looks calm and steady, “acting like the piles for sail boats or the drinking bowl for birds” [2];

Among rugged walls around Helou Pavilion, some are hollowed-out; some are completely built. The whole wall is like a normal curve or a reverse curve, and the stylobate and kitchen are in straight line. The architecture is stationary, while the light and shadow are moving and changing. The changing light creates a dynamic space. The light and shadow on the curve wall change over time. “The followers on the wall flickers; the bamboo grove sways. Light, dark, shade and shadow changes from dark to grey and then white, creating a beautiful ink animation. Therefore, the spatial uncertain nature is added synchronously” [2].

The completeness and incompleteness is another comparison of Helou Pavilion: the four corners are cut off from the roof, making it different from the common Xieshanding-style roof. The curved enclosing walls and the straight pedestal and podium are disconnected at junctions rather than in the common continuous form “Fig. 5”. “...It is seemingly modest and unrestrained, independent with each

other and arranged randomly, but it is actually well-organized, closely-connected with each other and complementary with each other” [2].



Fig. 5. Multiple comparison of Helou Pavilion.

If we compare these relationships with the aforementioned painting, calligraphy and seal cutting, it is apparent that the small building equally contains the rich and profound concept of Yin and Yang.

#### B. Entirety and micro-change

In the works of Zhang Lei, the concept of Yin and Yang is the synonym of "unity of opposites" [3]. Their common feature is: the pursuit of regional variation in stable, definite dimension and uniform material texture, or the creation of occasional "blank", forming interesting views. In this regard, House 4 of Chinese International Practice Exhibition of Architecture and Nanjing “House of Crack” are the most typical representatives.

House 4 is more “like a model rather than an unfinished building” [4]. It is a pure white concrete cube, being divided into five heavy layers by horizontal narrow cracks. The interesting point is the change of cracks: each crack is enlarged by smooth curve in specific positions. “It is a pure geometry formed by non-linear cracks. The pure geometry and the natural environment have gathered the energy of the unity of opposites... It is a modern interpretation of ancient tradition” [4]. Observed from inside to outside, cracks create a continuous and partially amplifying picture “Fig.6”.

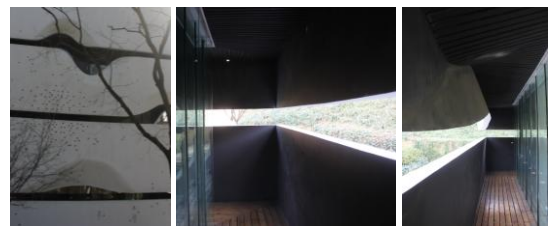


Fig. 6. Appearance and Detail of House 4.

“House of Crack” is different from the House 4. The white color and non-linear cracks of the latter seems to weaken the weight sense of the building block, while the grey wooden-mould concrete of the former seems heavy, abstract and pure, like “the Santa Claus House in a fairy tale”. [4]The vertical crack with a curve, completely different from the House 4, divides the grey dimension into two parts “Fig.7”. There are similarities with the effect of House 4, releasing all inside energy of the building [5].



Fig. 7. Side Face and Right Face of House of Crack.

The vertical and horizontal cracks are like slender waterfalls flowing from ink mountains with a cloak of clouds in painting “Fig. 3”. Some places are light even with out ink but better than with ink. It creates a vivid image and a distant and deep artistic conception causing reverie. “Lao Tz Chapter 21” says: “what is Word (“Tao”)? We can not see or touch. Though we can not see, there are images; though we can not touch, there are things. It is far-reaching but existent.”

#### IV. CONCLUSION

The concept of Yin and Yang is the most difficult part for readers to “understand”, but it determines the appearance and temperament of the building. The traditional building use a lot of vocabularies to express “the concept of Yin and Yang”, such as the coexistence of main color and auxiliary color, the setting of the virtual and the real, and the orderly relaxation body. However, the expressions of modern architecture are more variable, such as dynamic and static, complete and incomplete, the entirety and the micro-change... The superficial words of Yin and Yang are completely different, but the philosophy connotations have similarities.

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