

The Concept Of Oneness Between Humans And Nature: An Application In The Design Of Huizhou And Cheng Zhitang Residential Environments, China

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ABSTRACT

The oneness between man and nature is the philosophical thought and spiritual connotation of traditional Chinese culture supporting the unity between humans and others, human and things, and man and nature. At present, when the natural environment is severely damaged and the depletion of resources is excessive, harmony creation between people and everything around Cheng Zhitang of the Huizhou House is then required. This research is a case study of the design based on the concept of the oneness between man and nature. The qualitative research method was employed to understand the ideal connotation of "harmony between man and nature" by using an observational method to conduct field operations, exploring Huizhou Residential House "Cheng Zhitang" through photography, mapping, and literature review.

The research findings revealed that the "Cheng Zhitang" revolved around the concept of "Oneness between humans and Nature" in the whole space design process consisting of the harmonic relationship between humans and nature, man and man, design and culture, and design and nature. As per source of data gained, it showed that the concept of "harmony between humans and nature" was a design approach applied to the design of modern living spaces that helps improve the quality of life.

Keywords: humans and Nature, Huizhou Accommodation Area, Cheng Zhitang Accommodation Area

I. INTRODUCTION

The concept of "Oneness between humans and Nature" has experienced for thousands of years in China and been discussed, practiced and developed in Confucianism, Buddhism, and Taoism continuously and gradually become a philosophical thought that inwardly represented people's attitudes towards life, behavior and habits in various fields, harmonic relationships including harmony between people, harmony between humans and society, and the relationship between humans and nature. It is a renewable and sustainable development and in practical, plays a vital role towards the current social development. Modern society is facing serious environmental pollution,

waste of resources and other problems seriously affecting the harmony between man and nature whereas the design of living space is closely related to the people's lives. The design methods and concepts used in design and construction are very important. Huizhou is a traditional place in China having its geographical boundaries. Huizhou House is a traditional building in southern of China having unique characteristics in terms of site selection and layout. The architectural design and construction of residential areas are based on the design concept of "Oneness between humans and Nature" as the main theme. Cheng Zhitang is one of the sample works of the Huizhou House. After the field visit, all data concerning the design content, planning and planning layout, architectural design, interior design and design of

decorative elements were analyzed in terms of methods and applications of "Oneness between humans and Nature" concept and concluded as a supplementary for modern design concepts in order to play an important role in promoting the living area with beautiful surroundings together with the unity between man and nature.

2. RESEARCH OBJECTIVES

To study the application of the design concept of "Oneness between humans and Nature" for

designing the residential environment and analyze Huizhou and Cheng Zhitang Accommodation Areas.

3. LITERATURE REVIEW

The concept of "Unity between humans and nature" was originally an attitude towards life and also a way of dealing with people and their surroundings. This approach mainly applies to design reflecting in the following aspects based on the principle of "Oneness between humans and Nature."

Table 1: The Principle of "Oneness between humans and Nature" in Design

No.	Aspect	Details
1	A harmonic relationship between humans and nature	To adhere to the law of natural development.
2	A harmonic relationship between humans and society	To follow the social ideology.
3	A harmonic relationship between people	To adhere to the human moral and ethics.
4	The harmonic relationship between design and culture	To create design works based on the concept of integrating design with culture.
5	A harmonic relationship between design and natural resources	To perform according to the concept of sustainable development.

1. Interpretation of Design Concept of "Oneness between humans and Nature"

1.1 For the philosophical concept of "Oneness Between humans and Nature", why does Chinese philosophy follow? This has been defined by China's social structure since the ancient times. China has been an agricultural country and integrated with nature for many years. Further to learning some aspects of nature and mathematical rules, China has gradually developed a regional astronomical calendar, agricultural knowledge, and mathematical literatures and has also delved into every aspect of human life, for example; in March and spring – no wood and grass cutting to let them grow, no usage of fishing nets in rivers and streams to let fish and turtles grow (Jiang Jinsong, 2007). Since in March, everything recovers and grows and people should not have too demand of nature until the plants mature and become materials. Upon growing of the saplings, the harvest is then proceeded to reach a sustainable production cycle. As per Confucius, "Cutting down trees and killing wild animals violate the natural law in case people do not wait until they grow." (Le Iguia, 2003). This statement reminds people to cut down trees and hunt animals in line with their growth cycle in order not to impact their own long-term and stable development.

1.2 Ecological Perspective of "Oneness between Humans and Nature"

The ecology concept that exists in "Oneness between humans and Nature" is very important for ecological problems that people in society are currently facing such as destruction of natural environment and shameless resource development over the nature limit. Consequently, nature then "revenge" mankind continuously until people realize that people are not the master of the world but just a part of nature. While seeking self-improvement, people should be aware of the natural balance that is now a sustainable development concept. Such a concept states that "Oneness between humans and Nature" is a kind of understanding of human self-reflection. Adhering to this concept can be only one way of healthy development. Facing the nature with selfish desire of people can eventually lead to extinction of mankind and all things in the world. The pursuit of unity is the whole concept of Chuangzi unity offering to the Turtle of Heaven that "Heaven and earth have their own rules, the sun and moon have their own rises and falls, the stars have their own positions in the sky, animals have their own companions and trees grow in their own forests" (Zhou Wei, 2010). After hundreds of millions of years of nature evolution, everything has its own rules to maintain a relatively balanced relationship. When this relationship is severely damaged, it will affect a change to many forces and cause unpredictable danger. Therefore, the concept of balance should be adhered to. Everything in nature

belongs to each other, rely on and compete with each other. Humans are the most intelligent beings on earth due to having a strong initiative that can understand laws and apply them to change nature. This is also a critical concept of ecological perspective to actively develop renewable resources and use non-renewable ones and plays a vital role in maintaining a harmonic relationship between "Heaven and humans". Menzius also said that "It is easy to follow the nature law for survival and violation to such a law easily leads to disaster". Understanding and rationally exercising laws is the basic of the social development. The theory of "green design" is a way to achieve a harmonic relationship between humans and nature deeply penetrating in architectural design, interior design, product design, apparel design, and etc., and an ecological concept of the development of "Oneness between humans and Nature".

2. Case Studies of Application in Design Concept of "Oneness between humans and Nature"



Figure 1: Suzhou Museum

Source: <https://www.pinterest.com> Retrieved on (2006).

2.2 Fuyang Wen Village

Fuyang Wen Village was designed by Wang Chu and located in the outer suburbs of Fuyang District, Hangzhou City. The village has a history of more than 900 years with more than 40 ancient houses. The architectural design uses local materials and natural materials such as Hangzhou ash stone, colored clay, yellow paper tenon and ash to enhance a modern application of regional design. The combination between tradition and modernity

2.1 Suzhou Museum

This museum is a modern architecture in which the textures of gray and white materials and structures are similar to the surrounding traditional buildings that can attract the public and connect them with its history and importance (Juan Palace, 2014). Su architecture evolved from Hui style architecture and both are from the same origin. The architectural style of the Suzhou Museum is highly refined from the architecture of the Su School having a simple facade decorated with gray tiles and white walls. The art concept of landscape externally shown reflects the concept of "Oneness between humans and Nature". A combination of stone pieces creates a model of natural landscape with high roof to increase light and excessive extension of original windows reflecting an inner expression of the concept of "Oneness between humans and Nature" including a modern technique of applying traditional culture.

are very important for Wangchu's team. The front part of the building was constructed with rammed earth walls, cement walls, and Hangzhou limestone walls so that the building could be harmonized with the local environment. The buildings represent as if trees are growing from the ground. All buildings in this village are connected and combined in both traditional and modern styles whereas the layout focuses on a combination between modern and traditional ones. There are bridges connecting the traditional village with the modern one (Yuan Zeping Panping, 2019).



Figure 2 Fuyang Wen Village

Source: <https://www.pinterest.com> Retrieved on (2016)

3.1 The Natural Environment of "Chengzhi Tang"

Huizhou is an ancient place in Anhui Province, China. In Huangshan City, Anhui Province, presently called "Cheng Zhitang", is located in the flat part of the Hongcun Village, surrounded by mountains. The selection of construction site is closely related to local natural conditions. The highly outstanding group of buildings are surrounded by basin, lush trees and mountains that are scattered alternately. More than 1/9 are the hilly area and others. In view of population, more than

1/2 of them accounted for only 1/10. The pattern of the residential area shows the proportion of: "80% of mountains, 5% of river, 5% of fields and roads, and 10% of mansions" (Li Wenwen, 2009). This is the current situation of the regional environment. Huizhou is located in the northern subtropical region. It has a humid monsoon climate with an average annual temperature of 16 degrees Celsius, four different seasons, heavy rainfall at an annual average about 1400-1700 mm accounted by the number of rainfalls after 120 rainy days and the annual average of humidity above 80% (He Yu, 2014). This is the natural state around the building with housing construction limit of "Zhitang" to be in the local natural environment.

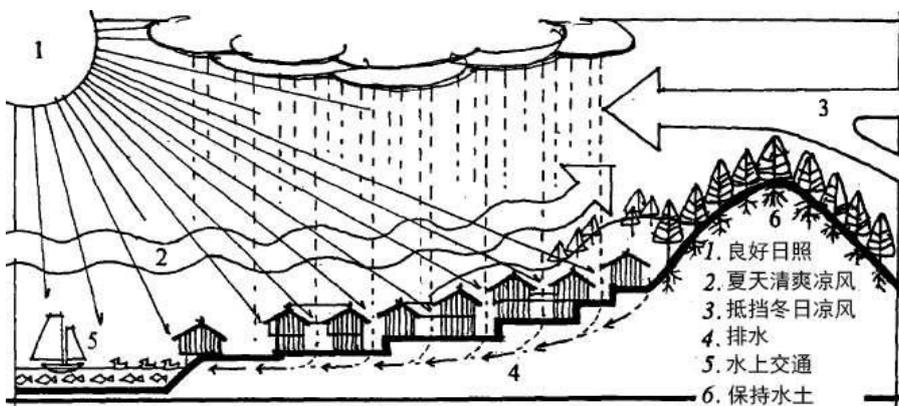


Figure 3: Schematic Diagram of the Natural Climate of Hongchun Village.

Source: Professor Zhang Tong (2020)

3.2 Cultural Environment and Planning of "Cheng Zhitang"

"Cheng Zhitang" layout is related to the geographical and cultural environment. Huizhou wind of learning is closely related to its geographical environment as referred to "Mountains remain silent, people are simple and honest, and the educational style is stronger and longer than the system" (Liang Qichao, 1989). The foundation of Huizhou culture comes from the Jiangnan, Yue and Sun Duan culture including long-term evolved cultures. Huizhou spatial style local architecture is the principle of architectural spatial organization based on the spatial

composition of "courtyards, halls, verandas and rooms" and the spatial relationship of "open-air under eaves style, open gender and closed type" (Choudao, 2020). The area of "Cheng Zhitang" is arranged as follows: the entrance-front yard-interior yard-yard-front yard-back yard. The plan layout follows a symmetrical basis, masculine & feminine pattern, superiority and distinction. This reflects the need for a feudal rite system in the natural environment and social atmosphere. The architectural design needs to be strongly adapted to the symbiotic relationship between the architecture and natural environment as well as the harmonic relationship between humans and society that can be applied to the current design awareness as well.

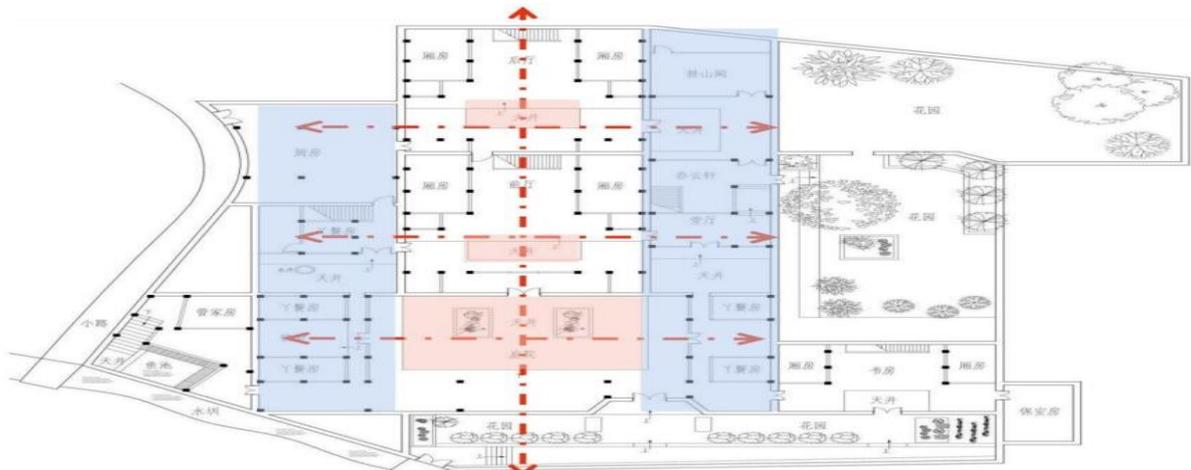


Figure 4 A Symmetrical Plan Layout of the Cheng Zhitang Residential Area

Source: Yongbo Liu (2022)

3.3 Cheng Zhitang's Architectural Design

The architectural design of "Cheng Zhitang" is quite unique. Firstly, the high surrounding wall is completely separated from the next building. The wall is called a "fire pediment" having the function of fire to prevent the spread of fire inside. The arrangement of the "yard" area is responsible for connecting with wind, light, and natural air. The ancients prayed for the harmony of heaven, man, nature, and society, found a place of harmony between man and heaven through the terrace. The patio, the front of the central chamber, and the

internal courtyard were used to connect heaven, man, and earth, and integrate human life into the natural process (Sue Kangjian, 2000). The appearance of residential integrity is gray tiles and white walls. Gray tiles were fired from local clay. The white wall is a processing of limestone that are local materials. The height of the walls is scattered randomly and rationally varied. Based on the unique environment, opening of small windows, ventilation function and humidity prevention within rooms and close-air overall area are applied in order to deal with the architecture and as the way to sustainably develop nature and then produce regional architectural characteristics.

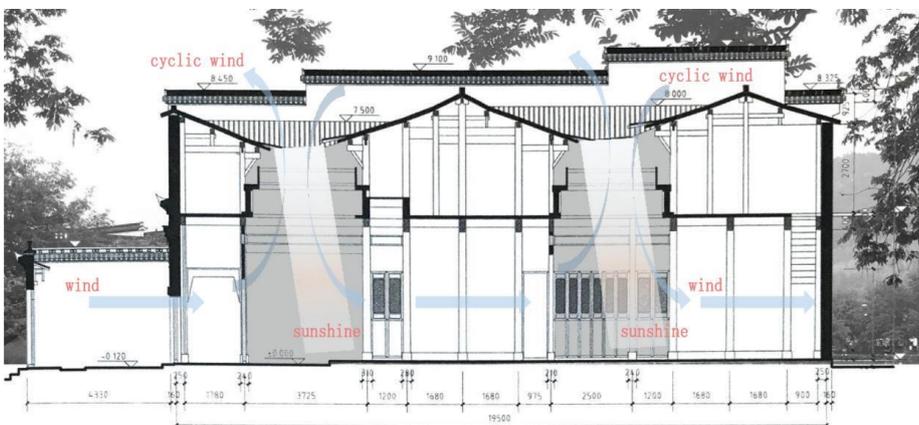


Figure 5: The Architecture and Natural Layout of Cheng Zhitang

Source: Yongbo Liu (2022)

3.4 The Interior Design of "Cheng Zhitang"

The interior space of "Cheng Zhitang" is designed with the concept of "hall" and "sleeping time" as the axis layout. The "hall" plays a function of communication, guest meeting and daily activities of the owners. Generally, the hall is in a symmetrical layout facing to the South and a "courtyard" connecting to the rest area called one "bed". The indoor layouts are simple consisting of one bed, one table and one case of wooden cabinet. In terms of sanitary facilities, toilets are outside

whereas the front yard is a moving area mostly used for activities of low-level inhabitants and the rest behind is the peaceful area mostly used for activities of noble ones. The middle is a formal corridor having walkways on both sides. Walls are separated by wooden grates. The multi-level indoor complex space is also based on the philosophy of "Change" and at the same time, on Zhu Xi's "Movement" theory and the concept on mean basis. In Chen Jianhong, 2003 suggests that this is a feudal rite system in the residence designed in relation to the relationship between people, children, men and women.



Figure 6: The Front Floor of the Cheng Zhitang Area.

Source: Yongbo Liu (2022)

3.5 Decorative Elements of "Cheng Zhitang"

Henry Glassy, 2000 says that decoration creates a powerful tension among the connecting buildings within the realm of construction experience (Henry Glassy, 2000). The decorative element of "Cheng Zhitang" is the activity of creating folk arts. However, their success is not only extraordinary and cheerful especially the handicraft culture of "three carvings" but also the center of financial resources, material resources and the aesthetic tastes of the residents. "Recording Techniques" contains: "natural growth, fertile fields, finical materials and excellent technology that are encompassed and well applicable " (Zhou

Gongdan, Wenrenjun). Carving on bricks, stones and wood shown in Huizhou housing construction cannot rarely reach the skills of "Cheng Zhitang". Carvings are Huizhou carved stones, mainly from Yixian Qinghe Tea Garden. The wooden carvings use materials from forest since they are easy for being processed and renewable. The contents of the carvings mainly manifest in flowers, feathers and Rui vases, dragons and elephants, tigers, lions, garden landscapes, folk stories, myths, etc. There are also calligraphy and life philosophy paintings on "Loyalty, Gratitude, Festival, Courtesy, Righteousness, Happiness, Lu, Longevity", etc. These are spiritual pursuits to show the decoration, perception, and lifestyle of inhabitants and emphasis on the design culture.

Table 2: Decorative Elements and 3 Types of Carvings

Brick Carving	Stone Carving	Wood Carving
		
<p>Carving patterns of elephants, tigers, and lions symbolizes guarding the house, fire prevention, and a harmonic relationship between the building and nature.</p>	<p>The magpie carved with plum blossoms symbolizes happiness and a harmonic relationship between the environment and culture.</p>	<p>Carving of a plant vase pattern symbolizes peace and harmonic relationship between people.</p>

Source: Yongbo Liu (2022)

Further to the above inspection, the observational method was applied to analyze "Cheng Zhitang"

space design based on the principle and content of "Oneness between humans and Nature," respectively in which the following four areas were reflected:

Table 3: "Cheng Zhitang" on Diversified Perspectives of "Oneness between humans and Nature"

No.	Design	Principle	Details
1	planning layout	harmonic relationship between man and nature	To adhere to the nature law and concurrence with to mountains, rivers and climate of Huizhou area.
2	building design	harmonic relationship between design and natural resources	Based on the concept of sustainable development with materials used for buildings as renewable resources
3	Interior design	harmonic relationship between people	To adhere to the moral principles of human ethics by designing area based on a classification between male and female, and elder and youth.
4	decorative elements	harmonic relationship between design and culture	Based on the concept of encompassing design and culture with meaningful carving patterns

3. METHOD

The qualitative method was applied for observing the current situation of "Cheng Zhitang" mainly in Huizhou homes in order to explore design aspects of the concept of "Oneness between humans and Nature. Therefore, data of spatial design was collected and analyzed in terms of which problems could be solved by the concept of " Oneness between humans and nature " in the design process under the following 4 steps:

1. **Research Methodology:** This study is qualitative research in which the descriptive analysis was applied on the main concept of " Oneness between humans and Nature " in the area of "Cheng Zhitang."
2. **Research Process:** After determining the research background, objectives, relevant literatures and cases, the current situation of "Cheng Zhitang" of Huizhou Residential Building has been reviewed, including the planning layout, architectural design, interior design, decorative elements, measuring and drawing of the focused area prior to sample analysis by the observational method.
3. The initial gathering of data is to understand the geographic location and weather of "Cheng Zhitang" conducted by observers through the network followed by reviewing the previous relevant literatures to understand its cultural background and lastly, measurement of dimensions, floor plan drawing, and taking of photograph of the building and its interior with a camera to record design-related factors.
4. After inspection and data collection on design status of "Cheng Zhi Tang, all data were analyzed through the following 4 areas:
 1. **Planning and Design:** The first site of the building is located in a hillside plain suitable for living and its overall layout is symmetrical that reflected a requirement of traditional beauty. For layout, the sequence showed entrance-front

yard-yard-front hall-yard-back field-yard-back hall, respectively placed under the requirements of traditional rite system. Consequently, layout and graphic design were based on the harmonic relationship between humans and nature.

2. **Architectural Design:** Firstly, building materials used for construction are local stones and trees representing economic and environmental protection. Then, partitions of the facade are made to prevent fire spread and reflect the aesthetic character of the culture. Finally, building space design and exterior ventilation and lighting enhance the integration of the building with its natural environment. Therefore, the architectural design employs a harmonic relationship between architecture and natural resources.
3. **Interior Design:** Most of them were based on the principle of static zoning as a classification between men and women, respect and humility, that are requirements of the original ethics and a harmonic relationship between people.
4. **Decorative Design:** It was initially a pursuit of excellent processing technology for decorative patterns to express one's own thoughts and ideals representing the noble culture on practice basis of a harmonic relationship between design and culture.

4. CONCLUSION

According to the study on the residential design based on the concept of "Oneness between humans and Nature", a case study of Cheng Zhitang accommodation areas, it was found that in view of design concept on "Unity between man and nature", the space design and many aspects are required to be conducted with recognition of encompassing people with all surrounding environments. Not only material consumption and saving terms, but also people and nature together with cultural blending with good design can reflect the concept of "people-oriented" by achieving friendly relations of each factor. Thus, the change

of "Unity between man and nature" to become a modern design concept can enhance well designed spaces and significantly supports new design theories, improvement of modern living environments and practices. This study focuses on an application of the concept of "Oneness between humans and Nature" used in the spatial design of "Cheng Zhitang" and reflection of interdependence relationship between the nature rule. In other words, it is the harmonic relationship between man and nature. The architectural design reflects the relationship between the sustainable development and nature or the harmonic relationship between design and natural resources. For interior design, it concurs with the harmonic relationship between people and reflects the harmonic relationship between the design and decorative element culture. In conclusion, the design of "Cheng Zhitang" interprets the spiritual connotation of "Oneness between humans and Nature" shown in the content of design and all surroundings to achieve a state of harmony in design. The design concept emphasized on people-oriented with integration is the content of the concept of "Oneness between humans and Nature" and this captioned concept supports the modern design, theory of modern living environment improvement that is practically important.

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