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ARCHITECTURAL VERNACULAR HERITAGE AS A CULTURAL ENHANCER IN RURAL VILLAGES

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Rural villages around the world frequently are the built manifestation of architectural heritage and the living traditions. However, with the dynamic changes of society, culture and technology, vernacular heritage could disappear. Consequently, this paper argues: what is vernacular architecture in contemporary time? How can it last over time in rural villages? In order to answer this, through a theoretical base and the analysis of two case studies, the authors will find out the principles that defines it. Both case studies are located in rural villages and are contemporary projects conceived in a place where traditional culture is still alive. At one hand, 'Tai O Hub Bridge', a project located in the fishing village, a site that depict the trace of the old Hong Kong and one of the last remaining places where ancient culture has survived. At the other hand, 'La Casa de Meche', a house built in Pedro Carbo- Ecuador, a project that faced the re-construction process after a 7.8 earthquake hit the zone. Even if they are located more than ten thousand miles away from each other, both represent the conception of a contemporary projects within in a vulnerable system. This paper seeks to define parameters that make vernacular architecture accurate over the time and how to apply them when new projects come in these rural villages.

Keywords: Vernacular architecture, Culture, Context, Construction, Tai O, China, Ecuador.

1 INTRODUCTION

This study seeks to find out the parameters that define vernacular architecture in contemporary age. "Working at a time of rapid change caused by the impacts of industrialization, urbanization" (Vellinga 2011), globalization and climate changing, it is necessary to analyze the lessons vernacular architecture has given us, in order to be able to build "authentic products of a specific place and people through shared knowledge passed down over time" (Vellinga 2011). While rural villages display a living culture, the rapid world changes can make them vulnerable to alterations that threaten local identity. Those changes usually modify the urban structure and construction knowledge of a place. Thus, finding the principles that make architecture vernacular could potentially help to address future projects in rural villages without threatening identity. Throughout a theoretical basis and the analysis of two case studies conceived in contemporary time within vulnerable rural villages, this study seeks to determine the parameters that determines what vernacular architecture is.

2 VERNACULAR ARCHITECTURE

Vernacular architecture does not follow a passing trend. It is a "term used to refer to a whole range of building types that were not part of mainstream architectural practice" (Vellinga 2011). It "combines the emphases on regional specificity and social context or stress that the vernacular is the 'common', ordinary or everyday architecture," (Upton and Vlach 1986) as it also is the architecture 'of the people', the ordinary people, not an elite, not 'for the people' (Oliver 1997). It may express a symbolic load to the site and may "stressed the way in which such traditions expressed the essential spirit of regional communities" (Vellinga 2011). In other words, vernacular architecture helps to keep alive the identity of a place and it does not intend to overshadow it to achieve private interest. This architecture embodies an endogenous approach, it "use local materials and employ manual power or the application of regionally specific technologies that have been handed down through the generations" (Vellinga 2011). The constructions depend on the availability of materials on the site and how they respond to the environmental conditions. The characteristics that define vernacular architecture, previously displayed, were found in the journal The End of the Vernacular: Anthropology and the Architecture of the Other, written by Marcel Vellinga. Those findings will be synthesized and organized into three categories, which will be used to analyze both case studies and to define if they could be consider vernacular architecture (Table 1).

Table 1. Principles of vernacular architecture.

CULTURE	CONTEXT	CONSTRUCTION
Accessible and inclusive	Adapts to each context	Simple and replicable technology
Promotes common and everyday activities	Suitable for environment, climatic conditions	Previous local knowhow
Essential spirit of the region		Available resources

3 TAI O BRIDGE HUB

3.1 Context Background

Tai O is a traditional fishing village, located in Lantau, Hong Kong. Unlike the city, "this is a village which urban landscape has barely changed. Even if its traditional economy based on fishing has considerably decline, lifestyle and urban structure has remained almost untouched. For thousands of years, they have remained in stilt houses because of functional means and also the proximity with the river" (Rodriguez 2020). However, this tradition is threatened to be lost due to the migration of young generations out of the village and the "clumsy attempts by outsiders to transplant residents from their stilt houses 'habitat' to modern flats" (Nicolson 2016).

Living along hills and the creek has existed since ancient times in the region. "It is a wonderful example of a continuing organically evolved cultural landscape that has sustained the village community for many generations." (Nicolson 2016). Until today, stilt houses are a symbol of the village, and represent the identity of the culture. It is known that the firsts settlements "were made of 'broken boats', boats which were obsolete and could no longer be used." (Kuah-Pearce *et al.* 2012). It was once when they use natural construction materials, however, due to natural disasters, they "shifted to industrialized construction materials such as tinplate and metal sheet panels for roofs and walls." (Nicolson 2016). Industrial materials and a patch work made of broken metal pieces depict the built identity of the site.

3.2 Tai O Bridge Hub

Tai O Bridge Hub is a headquarter where local and international entrepreneurs can work remotely. It is a steel habitable bridge "located within the neighborhood, commuting with existing houses and natural surroundings. All levels are directed toward the village, the hill and the creek to foster local productivity and to display the intangible culture and particular lifestyle. Its metal stilt structure maintains the local traditional architecture typology in a contemporary way and open the ground flow to promote the sale of local products." (Rodriguez 2020). The public facilities are shared spaces to promote local commerce and daily life activities. Furthermore, even if the private areas are destined to co-working spaces, they are still related to the neighborhood. By the time, this project has not been built, it is a visionary proposal of a contemporary space able to commute with the ancient village (see Figure 1 and Table 2).

Figure 1. The relation of Tai O Bridge Hub with neighborhood and creek.

Table 2. Principles of vernacular architecture in Tai O Bridge Hub.

TAI O BRIDGE HUB		
Culture	**yes**	**no**
Accessible and inclusive	-	
Promotes common and everyday activities	-	
Essential spirit of the region	-	
Context	**yes**	**no**
Adapts to the context	-	
Suitable for environment, climatic conditions	-	-
Construction	**yes**	**no**
Simple and replicable technology		-
Previous local knowhow		-
Available resources		-

Tai O Bridge Hub exemplifies the conservation and potentiation of cultural traditions. It promotes the inclusion between young generations, Tai O inhabitants and tourists. The headquarter not only adapts to the context, but it also connects the creek with the hill and the houses. Even if Tai O's inhabitants build with steel and broken-recycled metal sheets, they have not approach yet big steel structures, so Tai O Bridge Hub might be considered a new construction system for them.

4 MECHE´S HOUSE

4.1 Context Background

Meche´s House is located in the coast of Ecuador in the province of Esmeraldas, with a tropical climate and practically no dry season. "Ecuador is in constant seismic danger because of its

geographical location in the Pacific ring of fire. On April 16 of 2016, a 7.8 Mw magnitude earthquake hit the coast of Ecuador. The consequences were devastating, 70 % of real estate in the area was destroyed according to the National Secretariat of Planning and Development (SENPLADES)." (Villacis *et al.* 2018). In Ecuador, 70% of the urban landscape is built in informality, this is mainly because of the lack of technical support and malpractices used during construction processes. This is the case of Meche and her community, where many families lost their homes and were not receiving technical support to re-build the houses. When Ensusitio was asked to re-build Meche's House, they chose to contribute by transferring knowledge and creating a workshop of good building practices and skills, while at the same time building the house.

4.2 Meche's House

The house was designed and built on a participatory workshop with neighbors. There where theoretical and practical sessions applying what was learned with their own hands during the construction. The house is "mostly built with local materials, bamboo, clay, sand, coconut fiber, stone, and timber. The footings where concrete, the main structure of bamboo, wood floors and Barbeque walls." (Villacis *et al.* 2017). Most of the materials where from the village, as the technologies part of the local knowhow (See Figure 2 and Table 3). Meche´s house orientation as well as the materiality are suitable to the environment. Both have contributed in the thermal comfort inside the house and the reduction of thermal gains.

Figure 2. Meche's House during construction process and relation with neighborhood.

Table 3. Principles of vernacular architecture in Meche's House.

MECHE'S HOUSE		
Culture	**yes**	**no**
Accessible and inclusive	-	
Promotes common and everyday activities	-	
Essential spirit of the region	-	
Context	**yes**	**no**
Adapts to the context	-	
Suitable for environment, climatic conditions	-	
Construction	**yes**	**no**
Simple and replicable technology	-	
Previous local knowhow	-	
Available resources	-	

Even if Meche's House is for a family, it is construction process and the everyday life promotes inclusion to the neighbors.

The placement and the technologies used are suitable to the climatic conditions. Even if the house is located in a hot and humid region, users fell a satisfactory climatic sensation. Ultimately, all of the construction systems are accessible and easily to replicate. The villagers had a previous knowhow; however, the good building practices workshop strengthen the previous knowledge.

5 RESULTS AND DISCUSSION

While in Tai O Bridge Hub, vernacular traditions are principally used to formulate new visions of architecture for this site, Meche's house is the alive example of contemporary vernacular architecture.

Tai O Bridge Hub, promotes a stretch relationship between the new project and the neighborhood, it is as inclusive and accessible for common people, as it is for foreign visitors. The project logically adapts to the urban landscape and natural environment, it is placed in-between alleys and facing one side to the hill, and the other side to the creek shore. As it is thought to be built with stilts and broken-recycled metal sheets, it manages to depict the essential spirit of the site, however, in a contemporary way. Even if construction systems are inspired in the existing technologies, Tai O Bridge Hub incorporates more industrial technologies that required expertise. In addition, even if local people are able to build using the ancestral knowhow, thinking about new structures, bigger than the existing ones, limits local people to build by their own hands.

Meche's House can be fully considered vernacular architecture since it approaches all the parameters that defines vernacular. Talking about culture, the house beyond a place to live, it is a good practice construction workshop and the house where neighbors come in the everyday life. About the context, Meche's House coexist with one face with the village, and the other with the creek. Due to the placement, it receives the breeze of the creek shore and avoids the direct light of the sun. Almost all construction systems are from the site and the knowhow comes from ancestral times. Furthermore, since the house was the product of a good practice workshop, the technology used is simple and easily replicable.

When it is referred to culture and context, Tai O Bridge Hub could be considered as vernacular. However, when we analyze its construction system, vernacular architecture could be considered as a source of inspiration. Meche's House is indeed an example of contemporary vernacular architecture within a vulnerable rural village.

6 CONCLUSIONS

Vernacular architecture can persist over the time and remain contemporary. In some cases, as Meche's House, it could fully approach the parameters. In other cases, as Tai O Bridge Hub, it could reach some of the parameters and get inspiration of others, it depends on the site conditions, and in this case, in the availability of resources and the evolution of technologies.

Thinking about future projects in rural villages, there are some parameters that should be treated with special care and some that can be altered to reach better results. The ones related with culture and the context should be specially analyzed before performing any project because they could affect the identity and the environment of a site. Nevertheless, the ones related with the building itself, can be related with technological evolution and the availability of new resources. Setting vernacular architecture principles helps to intervene rural villages in a responsible way to respect inhabitants, their culture, and the natural environment and to enhance local knowhow.

7 RECOMMENDATIONS AND FURTHER STUDY

It is recommended to use this study to analyze other projects in different locations in order to find out new conclusions that strengthen the search of what is vernacular architecture in contemporary

time, and, how can it last over time in rural villages. This study could potentially become a basis for parametric studies that search contemporary vernacular architecture around the world.

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