

## PARAMETERS OF SOCIOCULTURAL SUSTAINABILITY IN VERNACULAR ARCHITECTURE

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### ABSTRACT:

Throughout the last decades, the human being has begun to be aware of the wear and tear of our planet derived from a wild exploitation of the territory and an irrational use of resources. Since the 80s, and especially from the publication from the Brundtland Report, governments and societies have been in need of reflection on the construction of a more sustainable future. Since architecture consumes a large part of the energy generated, construction professionals have also been in need of an effort in this regard. Soon, some architects found at the traditional vernacular architecture an example of sustainable buildings because this architecture brings together the three principles on which it is based: environmental, sociocultural, and socioeconomic sustainability. This paper focuses on sociocultural sustainability, which is often relegated to the last level because it is not easy to exhibit that knowledge and tradition are also resources to conserve. Throughout the following pages, some of the parameters of sociocultural sustainability that found in vernacular architecture will be analyzed. Starting from the work carried out by the VERSUS team, we will try to value aspects such as the preservation of the cultural landscape or the constructive cultures.

### 1. INTRODUCTION

The most accepted definition of sustainability, it refers to the ability of the human being to use the current resources without compromising the resources of the coming generations. It is not difficult to understand that energy, building materials, water, money, etc., are resources that we must use rationally. We understand that they are finite and necessary for the development of our society. These resources are directly related to two of the axes of sustainability: environmental sustainability and socioeconomic sustainability.

However, it is not easy to show that architecture sustainability has another axis of equal relevance: sociocultural sustainability. This point focuses on explaining the importance of culture and knowhow as resources that must be conserved, protected and transferred to the following generations.

Sociocultural sustainability is especially significant in vernacular architecture. It is the result of collective experience and knowledge that generation after generation has offered a sustainable response to the architecture of each place and society.

Although there is enough literature that deals in a generic way with sustainability in vernacular architecture, these tend to focus on environmental or socioeconomic sustainability, sometimes neglecting sociocultural sustainability. Even so, there are works that have focused on this axis. Among them, we could highlight the work done by the VERSUS team.<sup>1</sup>

Some of the parameters that are included in traditional vernacular architecture are: preservation of the cultural landscape, transfer of constructive cultures and intangible values, collective intelligence or creativity. Its study and enhancement is essential

to contribute in the search for a more sustainable contemporary architecture and to preserve the culture and identity of each society. Starting from these parameters established by the VERSUS team, we will analyze its relevance in vernacular architecture and its importance in the search for a more sustainable contemporary and future architecture.

### 2. PARAMETERS OF SOCIOCULTURAL SUSTAINABILITY

#### 2.1 Preservation of cultural landscape

Oxford Dictionary defines landscape as “everything you can see when you look across a large area of land, especially in the country” and culture as “the customs and beliefs, art, way of life and social organization of a particular country or group”. The cultural adjective, in this case, gives the landscape a human component. That is, the cultural landscape would be that which has been shaped by human beings over time.

This definition, therefore, contradicts the extended idea in the collective consciousness of the landscape only as a natural landscape. The human being has left its mark on the natural landscape throughout history. With the first objective of taking advantage of natural resources, they have built terraces in the valleys for cultivation, walls to divide cultivation plots, canals or ditches to take advantage of the water; in addition to ports and dikes to improve communication in the sea, rivers or lakes. All these elements have changed the natural landscape to such an extent that many landscapes would be inconceivable without the modification made by human being.

According to Professor Guillaud:

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<sup>1</sup> European research project which main aim is to gain knowledge from the fundamental lessons and principles of the vernacular architecture, and to explore new ways to apply those principles into contemporary sustainable architecture.

The built vernacular heritage is a part of the space of cultural landscapes formed by the human being, whether by peasants or artisans, before the industrial era that changed the course of history. More than the objects built in itself, it is the entire cultural landscape space that also gives a heritage value to the flora, fauna and landscape created for the specific crop, (...) Vernacular architecture and cultural landscape are one and the same space that unites nature and culture and that must be preserved and transmitted to future generations. (Guillaud, 2014)

Guillaud urges us to preserve this cultural landscape shaped by the human being because he understands that this action on the natural landscape also adds value to the environment. This landscape transformation, a difference in the transformation that the natural landscapes from the Industrial Revolution have undergone, responds to a sustainable way of understanding the territory and its resources. For this reason, its preservation is vital because it represents an example for the society of the present and for future generations of a reasonable use of the territory.

Over the last decades, with the change of the productive and agricultural model, as well as the migration from the countryside to the cities, these productive landscapes have been gradually abandoned, thus losing their use and, therefore, their sense. Many of these landscapes remain as the vestige of a previous way of life, incompatible with the way of life of contemporary society.

This is one of the risks that traditional vernacular architecture also faces: the loss of its use. This is because the vernacular architecture is directly linked to the use for which it was conceived. Unlike the conception of architecture derived from the construction bubble in which the use of a building could arise (or not) once it was built, vernacular architecture only appears when it is really necessary.

As mentioned, changes in the way of life have meant a loss of use of vernacular architecture. This could mean the loss and abandonment of this, however, it should be noted that, although the vernacular architecture is so linked to a use, it also has a high resilient capacity that can allow a change of use for its survival. (Olez et al., 2015).

One of the characteristics that make vernacular architecture an example of resilience is, for example, the fact that simple and modular flexible systems are more resilient. The adaptability of flexible spaces can lead to different activities that allow the use of space for long periods of time, thus avoiding the abandonment of the building.

Despite this, architects should not delay a reflection on how changes in use in vernacular architecture can affect the landscape. Vernacular architecture emerges, from a way of exploiting resources and territory that has given rise to productive landscapes that will only exist as long as they remain productive. One should then reflect on how these changes in use can affect these landscapes.

## 2.2 Transfer of constructive cultures

According to Professor Hubert Guillaud:

Vernacular architecture is a testament to the knowledge of the artisans and the anonymous builders who built these buildings. These traces of the vernacular constructive culture live in the landscape through casual aspects such as

materials, (...) construction and ornamentation details or the relationship between buildings and the environment. All these elements demonstrate the ability of the human being to adapt to the place, to understand their needs and respond to the cultural and social identity of the territories. (Guillaud, 2014)

As commented above, vernacular architecture is a product of the experience of previous generations of builders. Over time, these builders have been perfecting the construction techniques that have been transmitted to the next generation in order to continue improving. Vernacular architecture is characterized, precisely, for not assuming a case of spontaneous generation: each constructive decision is taken in response to a problem posed by the place, the resources, or the lack thereof. This accumulated experience is an example of mastery in the use of selected materials as well as a reflection of constructive memory.

Talking about the transfer of constructive cultures, it also means talking about the preservation of culture because it is still a reflection of the way of life of a society. Preserving constructive traditions, then, means preserving the culture of a territory, and with it, the identity of a people.

A concept that can be related to the transfer of constructive cultures is that of constructive tradition. Professor Paolo Torsello, in the paper "Tradición constructiva y restauración" he quotes the Renaissance architect Vincenzo Scamozzi to illustrate what the concept of tradition consists of when he explains that:

It is a good sign if hitting two stones together crush and produce a kind of flour, and they smell like burned horn, and they know how to fake. The large and heavy ones are preferable, to the small ones and light ones, because they have better strengths and strength restrictions to lime; and finally they will have to be alive and have a lot of nerve. (Torsello, 2010)

Torsello highlights Scamozzi's ability to explain the choice of certain stones to make lime, using all the senses. This precept, continues Torsello:

...requires a general predisposition to understand, which derives of experience: only those who have listened and tried for a long time have the criteria to capture meaning and judge its usefulness. (Torsello, 2010)

Professor Torsello introduces then a concept, which was mentioned before, that helps us to understand the importance of the transmission of cultures or constructive traditions: experience, as the basis and foundation of traditional vernacular construction.

Torsello continues the aforementioned paper binding the transmission of constructive culture to four bases:

- a) The credibility of the one who formulates the message, which is linked to the appearance of the teacher.
- b) The line of continuity that unites the experience of the teacher with the previous and next generations.
- c) The recognition that the message transmitted can only be understood by those who belong to the trade.
- d) The possibility that the message can be formulated in essential terms, so that it is safeguarded "that esoteric aspect that makes it entirely understandable only that which has the talent and initial status."

All these principles established by Torsello come to summarize the concepts that have been detailed at the beginning of this section such as experience, generation-to-generation transmission or mastery acquired in the development of a particular trade. (Torsello, 2010).

### 2.3 Promotion of ingenuity and collective intelligence

Vernacular architecture is also an expression of creativity, which is a reflection of collective intelligence and the process of experimentation in construction that has become an experience (Guillaud, 2014). In the words of Professor Guillaud, "social and cultural heritage demonstrates a high level of ingenuity in regard to the use of resources and their prudent use."

In this first approach, Guillaud highlights different concepts that are intrinsically related to vernacular architecture. On the one hand, it refers to collective intelligence, as an engine for the creation of ingenious solutions and, on the other hand, it refers to the rational use of resources as the central axis of the construction process.

This lack of resources that is frequently mentioned in, does not cease to be a difficulty, and yet, this moment of difficulty generates environments in which creativity arises. In the words of Professor Martín Mariscal, "we have to generate an attitude that takes advantage of resources and at the same time be kind to them. This is the way to behave in a sustainable way" (Martín, 2016). As seen above, the rational use of resources resulting in the central axis of sustainability and the lack of them, as it has been seen now, is essential when developing creative approaches.

As regards collective intelligence, this arises precisely from collective social behavior. In nature this type of behavior is not only seen in humans, but in a multitude of animals and organisms. The need for mutual help forces the construction of biological communities, digital networks and, of course, cities. The human being has been forced to work as a team in order to evolve and grow in the same way that the bands of birds or the banks of fish, the swarms of bees, etc., they end up behaving like a single organism in order to be guided or protected from predators.

Architecture, throughout history, has also benefited from collaboration and teamwork. Although this behavior has not occurred at all times, it could be said that the role of an architect as the creator of a work is a fairly recent concept and that in recent decades it has been reversing. Architecture arises at first from the need for refuge and subsequently new uses were introduced such as war defense, or religious worship, and yet all these uses were resolved without the need for the figure of the architect.

This way of building, in the words of Martín Mariscal, "has needed the anonymous collaboration of many, to achieve the development of buildings and cities that manage to unfold in enclaves that today may seem unthinkable, despite the existing technological development." (Martín, 2016). Professor Martín continues her study by citing another expert in vernacular architecture, Rudofsky, who perfectly defines the importance of collective work in the development of vernacular architecture to end up introducing a new key concept in the development of creativity:

By emphasizing the roles played by architects and their models, the historian has obscured the talents and accomplishments of anonymous builders; men whose concepts can ever scratch the utopia, but our aesthetics approach the sublime. The beauty of this architecture has long been accidentally affected, but today we are in a position to recognize it as a special sense of taste in handling practical problems. (Rudofsky, 1973).

### 2.4 Recognition of intangible values.

The constructive language of vernacular architecture shows its social and cultural dimension, in addition, it reflects the identity of the people who built it. This statement is closely related to the conscience and collective memory of people, who have found in architecture a canvas where they selected part of their history or the myths and legends of the place. Although this idea is manifested more directly in religious buildings, it is in domestic, popular architecture, where it becomes especially relevant, because its intention is not to capture faithful or transmit messages, but simply to make clear its identity as people.

In a discipline where it is so important what can be touched, the tangible, it is often complicated to see the value of what has no matter. According to UNESCO:

Intangible cultural heritage or living heritage "refers to" the practices, expressions, knowledge or techniques transmitted by communities from generation to generation. Intangible heritage provides communities with a sense of identity and continuity: it favors creativity and social welfare, contributes to the management of the natural and social environment and generates economic income. Numerous traditional or indigenous knowledge are integrated, or can be integrated, in health policies, education or management of natural resources. (UNESCO 2003).

In this definition it is already clear that the intangible value does not refer to the product derived from a certain activity, but to the knowledge and science necessary for its preparation. In the case of architecture, and especially vernacular architecture, this concept refers to the knowledge that is transmitted generation after generation and that results in a way of building that derives directly from experience. As seen, in architecture, with such an important weight of the material, it is difficult to abstract to focus on the immaterial. To identify what constitutes an intangible value in architecture, it should be understood that:

The history of thought that existed behind the works of architecture explains many of the principles that motivated one way or another to project. It is also a culture - architectural if you want - that is inherited, that penetrates the cities we travel daily and that, little by little, pervades the way of looking and admiring the buildings of their fellow citizens. (Mestre, Tort, Martínez, 2012).

This last reflection also opens a new topic of debate about how architecture of a place ends up conditioning the way of understanding the construction by its inhabitants. It thus becomes a form of *uróboros* in which this architecture, over time, ends up conditioning itself and those who have to build it.

As said, it is not easy to see the value of that which is intangible, so important in vernacular architecture, while most of its teachings are not transmitted in written form but orally, generation after generation. However, if society understand that,

for example, knowledge is a resource as are materials, energy, or labor, it is evident the importance of its conservation for the coming generations.

## 2.5 Promotion of social cohesion

This last parameter of socio-cultural sustainability responds in some way to everything that has been seen before and reflects how vernacular architecture is a common work, of a marked social character that is designed by and for the people in search of the common good.

In this sense, Professor Guillaud describes the importance of social cohesion in vernacular architecture when he explains:

“Beyond buildings, settlements, villages and towns, it affects the desire of the inhabitants and their ability to exchange and live together, and maintain the conditions of social cohesion to live as peacefully as possible and despise conflicts of interest.”. (Guillaud, 2014).

As commented above in the section dedicated to the improvement of creativity, collective intelligence is the greatest tool of a society when facing challenges and seeking solutions to problems such as lack of resources. However, for this collective intelligence to occur, the existence of social cohesion is essential, as well as the grouping of individuals into settlements, cities, etc. Only when there is a group conscience among individuals, do the necessary conditions exist to work as a hive and thus add knowledge and experiences that can give an optimal result to day-to-day problems.

The social tendency of the human being has been studied in fields as diverse as politics, anthropology, philosophy or biology. All these disciplines have tried to explain the need of the human being to group, to live in society, from their origins.

Already in ancient Greece, great thinkers reflected on the need of human beings to live in society. In this way, Aristotle affirms in his work *Politics* (Aristotle, IV Century, B.C.) the following:

The human being is a social being by nature, and the insocial by nature and not by chance or is it a human evil or is more than a human. (...) Society is by nature and prior to the individual (...) who cannot live in society, or needs nothing for his own self-sufficiency, is not a member of society, but a beast or a god. (Aristotle, IV Century, B.C.)

Aristotle makes it clear that human beings, by their very nature, necessarily tend to live in society. Language and its ability to reason, according to the philosopher, are proof of this, and the tendency of the human being towards its conservation and reproduction forces him to join others.

Jean-Jacques Rousseau, in his work "The social contract" (ROUSSEAU, 1762) also reflects on the need of human beings to live in society. The French philosopher begins by emphasizing that the first society is the family, however, this need of the human being to remain with his parents, according to Rousseau, only makes sense "the time they need him for conservation." He continues explaining that "as soon as this need ceases, natural ties are dissolved. The children exempt from the obedience that they owed to the father and he relieved of the care he owed to them, both come to enjoy equal independence. If they remain united, it is no longer necessarily and naturally, but voluntarily; and the family itself subsists only by convention." (Rousseau, 1762). The philosopher does not

explain here the social reason of the human being, however, in this same treaty, later, he does give an idea that also makes sense of this need.

I suppose the men arrived at the point where the obstacles that prevent their conservation in the natural state overcome the forces that each individual can use to stay in it. Then this primitive state cannot subsist, and the human race would perish if it did not change its way of being. Now, since men cannot generate new forces, but only unite and direct those that exist, they have no other means of conservation than to form by aggregation a sum of forces capable of surpassing resistance, of putting them into play with a single purpose and to make them work together and in accordance. (...) Each one puts in common his person and all his power under the supreme direction of the general will, and each member considered as an indivisible part of the whole. (Rousseau, 1762).

As seen, human being has the need to group in society to understand that by itself he will not be able to survive, given his biological "limitations".

This way of life responds to a need from which, in addition, the human being has taken advantage, as explained in the previous section in reference to collective intelligence. It is in vernacular architecture where the idea of a common work becomes especially relevant. Vernacular architecture is the result of teamwork that would not be possible without the necessary social cohesion.

This is one of the points of view that explain how vernacular architecture fosters social cohesion, however, it is not the only one. This architecture also responds to social cohesion, generating common spaces so that it is possible: pedestrian areas, plazas, arcades, ... In a society in which the transfer of land for common use must be regulated by legislation, it is shocking how this mechanism has always come to be given as a form of assignment for the common good.

Vernacular architecture is then still a reflection of this social cohesion that the human being requires for its survival. It goes far beyond the "cultured" architecture and this, due to its identity and its origin, needs a cohesive society for its survival, assuming an *uróboros* once again.

## 3. CONCLUSION

As seen in this paper, sociocultural sustainability is, together with socioeconomic and environmental sustainability, the three axes on which a sustainable architecture is built. This idea derives from the premise that knowledge, experience and other social factors should also be understood as resources that must be protected for the next generations.

It is precisely in vernacular architecture where socio-economic sustainability is seen with greater clarity because, since it is an architecture without architects, it is the fruit of a collective effort of society.

In this paper, the parameters established by the VERSUS team in the publications "Lessons from vernacular heritage to sustainable architecture" (VV.AA., 2014b) and "VERSUS: Heritage for tomorrow. Vernacular knowledge for sustainable architecture" (VV.AA., 2014a), and how each of these parameters are translated into vernacular architecture and built heritage have been analysed. Specifically, the importance of the preservation of

the cultural landscape, the transfer of constructive cultures, the promotion of ingenuity and collective intelligence, the recognition of intangible values and the promotion of social cohesion have been analyzed.

With regard to the preservation of the cultural landscape, it refers to the conservation of that landscape that has been modified by mankind over the generations, to the point of being unable to separate human action from the natural environment. As commented above, this is the case of terraces built for cultivation in valleys or hydraulic infrastructures such as dams, canals and dikes. These transformations carried out on the landscape, as Professor Guillaud exposes, are an example of intervention in the territory in a sustainable way for the generations of the present and the future.

The transfer of constructive cultures is another of the axes on which sociocultural sustainability is explained. Vernacular architecture is the result of the experience accumulated by all the generations that preceded us. In this way, the built heritage collects the knowledge of all these generations in a direct way. On the other hand, this constructive culture also constitutes the reflection of the way of life of a society and, therefore, a reflection of it that must be preserved.

Vernacular architecture is also an example of the promotion of ingenuity and collective intelligence. This architecture starts from an important limitation such as the lack of resources, or better, the need to build content only with the resources of the place. This limitation has forced different generations to find ingenious and optimal solutions for each territory. This limitation of resources has also forced communities to work collectively to offer adequate solutions that are also living examples of collective intelligence, assuming a tribute to the anonymous work of so many builders.

In the next parameter analyzed, the recognition of intangible values, the importance of knowledge as a resource is valued. In this case, the result, or the constructed object, is not so important, but the knowledge necessary to develop it. In the case of vernacular architecture, this knowledge is not transmitted in written form, but mostly orally through artisans. From teacher to apprentice, a chain of transmission of knowledge that we must keep functioning.

Finally, as seen, vernacular architecture is based on the need of the human being to group and live in society. Given the limited resources on which vernacular architecture is built, this human condition guarantees the possibility that all members of the community have at least one home. At the same time, only the work of a cohesive society guarantees the possibility of building this architecture, as it responds to the work of different builders and craftsmen.

Vernacular architecture, in conclusion, is the greatest example of sociocultural sustainability. Although cultured architecture, that is carried out by architects, can also be based on principles of environmental and socioeconomic sustainability, only vernacular architecture, carried out by the user (as an individual or as a society), includes principles of sociocultural sustainability. Thus, this architecture should be a mirror to look at and a book to learn from when developing a more sustainable architecture for the future.

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