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VERNACULAR AND EARTHEN ARCHITECTURE TOWARDS LOCAL DEVELOPMENT

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Locations of the Global in Traditional Architecture

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Abstract Traditional architecture faces multiple challenges; one of the most obvious comes from globalization. So far this phenomenon has been detected from its most visible face, the homogenization processes that have been imposing themselves in traditional landscapes. For this reason, a series of International Chapters have been triggered that put the focus of attention on this reality and the need to find out adapted responses. However, there are other ways where the processes sneak in that may be unnoticed.

The widespread character of globalization in multiple dimensions of life requires a clear detection of them before being able to propose a mode of action. Therefore, as a first step, the main theories that have analysed them linking them to traditional architecture will be exposed, to later seek from a field little explored until now, the anthropology of architectural construction, the other subtle ways in which global processes are introduced with less obvious visual impacts but with the same potential risk of loss of cultural diversity, distinctive of traditional architecture.

Through a qualitative study of the comparative nature of constructive solutions used in the north of Portugal, these subtle ways of globalization s proceeding will be studied in this specific location, converging the existing theories about the causes that generate them.

Finally, in the last section, alternative solutions to this challenge will be proposed, scrutinizing them from the multiple dimensions that intervene in order to verify the feasibility of them.

Keywords globalization, construction systems, northern Portugal, expert systems

1 Globalization and Vernacular Architecture

1.1 Introduction

In the advance of modernity, i. e. in late modernity, a break with traditional modes of operation has become more apparent, and formal changes resulting from this new order are discernible in the vernacular heritage.

From the information age (Castells, 1995) this new order is characterized by the advent of a new socio-technical organizational model as the fundamental matrix of economic and institutional organization. Being, therefore, interventions in vernacular architecture guided by the techno-bureaucratic globalization process.

Under these conditions, even local aspects are deeply penetrated and configured by social influences that are generated a great distance away from them (Sassen, 2007). Relationships of any kind are inten-

sified around the world, linking faraway places; this is the essence of globalization.

In construction systems, these foundations have given way to what Anthony Giddens designated "expert systems", i. e. "systems of technical accomplishment or professional expertise that organise large areas of the material and social environments in which we live today" (Giddens, 1990), which have permeated the fabric of everyday life in building systems, where individual cases are sacrificed according to a general sense of systemic efficacy.

These expert systems go hand-in-hand with transnational processes that go beyond domestic territories and institutions, as the new global rules, born out of the rational-legal system, manage to penetrate to some extent to the very heart even of the most local level. The fact that a process is within the local territory does not necessarily imply that it is a local process (Sassen, 2007). It

may be a location of the global, which highlights its incorporation into areas considered mainly local, but which really follows the same rational laws that govern global processes, the product of a growing bureaucratization in all areas.

The study of the refurbishment of vernacular heritage is presented as a means of encapsulating to capture the phenomenon of localized globalization.

1.2 Expert Systems and Their Silent Imposition on the Vernacular Architecture

When it comes to studying from the vernacular architecture the effects of globalization, the first focus of attention falls on landscape transformations. Thus, homogenizing and dehumanizing processes began to unify any construction within any territory. In landscapes born from materials extracted from the natural environment and constructive techniques acquired by endogenous evolutionary processes or by cultural loans (Martín, 2006) it is imposing today's technology that can transform local and individual conditions into something so similar that any territory becomes unified. There are the results of the change of a previous limited, diversified, and local technique that offered an image of the peculiar culture of this area.

Expert systems have led to the dismantling of traditional forms of construction and have created dependencies through a tendency to invade all areas of construction and achieved indispensability (Giddens, 1990).

But the first impact of this clear consequence of globalization can lead to the invisibility of others of the same nature that occur in a less obvious way, more subtle. Identify the repercussions of these processes in all their scales of action is one of the necessary preliminary steps at the protection actions of vernacular architecture. Otherwise there is a risk of implementing measures not directed to the main causes, peripheral solutions that although they mobilize many efforts to avoid the loss of identity, many of them have been focused on visual harmony and material contextualization

avoiding other variables such as structural functioning original or the local origin of the materials that can become more determining as the main causes of these changes.

Precepts of maximized efficiency of modernity have given way to a standardized construction where there is no place for particular cases, as required the local architecture refurbishments.

1.3 The Complexity of the Protection

But at this point, another issue must be considered. What does it mean to protect the vernacular architecture?

The protection of these buildings covers different dimensions that, sometimes, between them can become contradictory or difficult to reconcile. The difficulty lies in the fact that it is necessary to promote the evolution of these buildings without betraying the community cognitive level and without losing local techniques and, at the same time, allowing them to remain part of the living constructive fabric of our towns and cities.

This generates a contradiction due to the meeting of two operating logics that do not easily find a point of convergence. On one hand, there are the constructive functional principles of the vernacular heritage. And on the other hand the contractual logic of performance regarding purposes that forces the use of standardized solutions that are disconnected from both physical and cultural territory.

Aware of this disengagement, the administration through the legislation tool promotes a growing recognition of local cultural diversity based on the most visual variables. As a result, there is a confusing pattern of ignorance / recognition of cultural logics (Alcindor, 2016).

Thus, there is the paradox that although they are increasingly protected by regulations, at the same time that they try to avoid the loss of traces of local particularisms, they reduce the capacity to be able to propose creative solutions that ensure a hybrid evolution between universalist expert systems and the local ones.

The complexity of protection lies that the essence of vernacular architecture that must be protected is a living architecture where diversity of dimensions converge, that is, as a transdisciplinary set of material and immaterial variables. Therefore, its protection requires a transdisciplinary local knowledge and understanding before establishing any rule ...

2 Methodology

Study in the field of the refurbishment of vernacular architecture required work on the link between the material practices, policies, and scientific discourses, a job that allowed the profound logic that links the different types of social practice to be brought to light, as these discourses form part of these practices, despite their relative autonomy (Foucault, 1999).

Specifically, the search for these links was performed using the perspective of the situational analysis through which it could be possible to construct a complex, holistic picture from the analysis of words and the observation of works.

3 Analysis of Constructive Practices in the Refurbishment of Northern Portugal

3.1 Common Practices

The most usual practices employed in the vernacular heritage refurbishment in Northern Portugal will be analysed from the perspective of the anthropology of architectural construction, that is, the area that tries to see constructive decisions from the understanding of the "embedding" of constructive action in networks of interpersonal connections and in particular cultural conditions. These specific examples will make it possible to print tangibility, concreteness and interest to the discussion that would remain, otherwise, on an abstract plane about how the world goes further into areas considered as local.

3.2 Contact with the Ground

In these buildings, no type of element prevented the water to rise by capillarity in the walls, since the activity that was to take

place inside it and the environmental conditions did not require solving this situation. Normally, the ground floors were intended to accommodate the animals of the farm, which was perfectly compatible with the appearance of these humidities.

In addition, the pieces had constant ventilation due to the activity carried out and for the treatment of their walls, with no finishing, any plastering on the walls, or pavements on the floor, both inside and in the surrounding streets. This greater possibility of ventilation allowed bigger evaporation of the water molecules that rose through the capillaries of the walls and thus the water did not reach high levels.

With the use change, these spaces become habitable and these humidities by capillarity are no longer admissible. This is one of the main problems that affect the comfort conditions of these buildings that are now focused exclusively on residential use.

The solution that is commonly used is to place a layer of crushed stones that seeks to break the capillaries, leave an air chamber with no ventilation ensured and execute a slab of prefabricated concrete beams.

Although this solution continues to leave the walls in contact with the ground, without solving all the humidity problems by capillarity. So this solution only partially solves the problem. To avoid the visualization of the spots due to this issue, partitions are placed to conceal them.

This way of proceeding suggests patterns of action typical of late modernity based on these expert systems that seek immediate effectiveness through the pronounced specialization of knowledge as opposed to traditional practice that never provides a way to solve a particular problem, but always an elaborate, often multifunctional method that was part of an integrated approach and strictly linked to a conception of the world founded on the careful management of local resources and the social models that lie behind each construction (Laureano, 1999).

3.3 Enclosure Walls: Finishes and Window Frames

In this area, as in many other parts of the Mediterranean area, there was the practice of covering the stone walls with lime coatings. Only the lack of resources, the useless use of the building, or the exceptional quality of the stone, as well as a careful masonry, exempted this procedure.

These walls were built using local stones easily available due to their condition of abundance and proximity in the previous pre-industrial conditions. Its quality was not a determining condition. The fact of coating it with an outer layer ensured a greater durability of the stones as it protected them from the weathering processes and at the same time ensured greater impermeability inside.

In the new conditions governed by an interrelation of capitalism and industrialization, to obtain these stones with a format outside the conventional dimensions of commercialization converts existing ones into deluxe pieces. As a consequence, its exposure has gained greater value compared to its traditional concealment after plastering. Priority is given to an exhibition of the historical material (Fig. 1).

These stones take the role of new symbols of exclusivity, since capitalism beyond the fundamental matrix of economic, institutional and technological organization, is also a system of production of symbolic goods (Salhins, cited in Ramirez, 2011).

In the case of window frames, traditional wooden exteriors are usually replaced by other aluminum ones. The mistrust of the more natural materials enhances the use of expert systems, making the latter to be the best option despite the traditional ones. The loss of knowledge outside of discourse from the educational institution (Foucault, 1999) prevents the responsible for these interventions to feel comfortable with the uncertain behavior of traditional materials. This distrust ends up eliminating traditional systems in front of experts.



Fig. 1 Finish in the traditional house after the intervention © Andreu Roselló Alcindor

3.4 Slabs

In traditional slabs of wooden beams, traceability of the raw material was a fundamental factor that allowed to predict the behavior of this material.

Variables such as the characteristics of the species of wood used or the different processes followed from the election to the installation ensured a proper operation. But the production conditions of late modernity block the traceability of supplied materials. In most cases, this leads to opt for other systems of greater reliability in this new production environment.

It is usually replaced unidirectional solid wood slabs and wooden plywood beam filling by unidirectional slabs of prefabricated concrete beams, ceramic interlocking, and compression layer (Fig. 2). Expert systems par excellence.

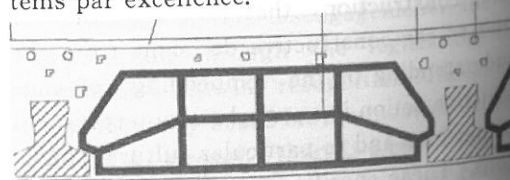



Fig. 2 Precast concrete beam slab © Monica Alcindor Huelva

3.5 Roofs

Roofs were traditionally made by wooden beams, wooden beam filling and ceramic tiles.

But in a refurbishment intervention, the tendency is to replace this wooden



structure with a concrete beam and ceramic interlocking slab on which are erected partitions that form the slope of the roof on which rests other concrete joists, ceramic interlocking, compression layer, insulation, protective layer and finally the roof ceramic tiles.

This constructive system is preferred since it is an expert system which means that it is known by all construction workers, facilitating its execution and its price, compared to the use of traditional materials such as wood that under these production conditions in which the times are more accelerated do not allow to ensure the correctness of the steps to be followed in the care of the raw material, and as a consequence it is difficult to ensure a suitable behavior.

New conditions of administrative regulation, business, and technical convenience induce the application of expert systems at the expense of traditional techniques. In addition, the use of these systems can go unnoticed at first glance, but actually, a homogenising process is subtly imposed.

4 Conclusion

In the preference of those responsible for the refurbishment works, it is evident the use of materials that have been processed by the industry, which has earned "the attribution of agents to identify risk factors, monitor variables, analyze situations complex and design responses to deal with accidents and catastrophes" (Velasco, 2006). There are the same processes observed in these aforementioned examples that prefer precast concrete slabs over the traditional solid wood slabs. Or change the wood carpentry for the aluminum ones, although in an effort to depersonalize it tries to imitate the traditional wooden ones.

In short, what lies behind these preferences is the legitimacy achieved as random objectifiers and this brings a capacity to reject and dissolve "traditional" alternatives.

The economy also plays a central role in these preferences, since it provides the criteria of what is "economic" and what is

"uneconomical", exerting a powerful influence on the actions.

If an activity has been labeled uneconomic, its right to exist is not merely questioned but denied with energy because the judgment of the economy is extraordinarily fragmentary. The economy only fixates on one variable: the monetary aspect. These criteria give much more weight in the short term than in the long term (Naredo, 2006).

4.1 Alternative Solutions

Conciliation between the maintenance of traditional cultural logics and at the same time to keep being part of the constructive reality of our towns and cities in another production environment, forces to center the core of the matter, since it is not to choose between "modern growth" and "traditional stagnation". The question is to find the right path of development (Schumacher, 2011).

In this section, some alternatives to these forms of intervention are explained.

In the case of the dampness of the ground floor, beyond the solutions of capillarity breaks the solution can also come by intervening in the type of programmed used. A use that requires large volumes of ventilation, in a way that promotes the evaporation of water contained in the walls. It is about reproducing conditions similar to the initial ones that determined their original constructive characteristics.

Other ways of acting require a prior reflection on the discourse that is imparted from the educational institutions since many of the aforementioned actions are influenced by ignorance, a conceptual void in the transmitted contents.

This is the case of wood, there is a prejudice that encourages its substitution even in cases of old wooden beams that are completely dry, of which there are no risks of xylophagous attacks, nor lack of carrying capacity as long as the distribution of the efforts with which he has worked for decades is not modified.

If the wood is the material of the roof structure, the intervention should only en-

sure better thermal insulation. In the case that it takes part in slabs from inside, it is the acoustic insulation that should be implemented.

In the case of plastering peeling off the ordinary masonry walls. The reconciliation between the exhibition of a new symbol of distinction and the maintenance of the traditional aspect can be adapted in degrees. The solution adopted by Távora in the Rua Nova of Guimarães refurbishment is an example of this type of compatibilization (Fig. 3). The wall is not completely stripped, but windows are opened through which to observe the historical constructive system behind finishes.

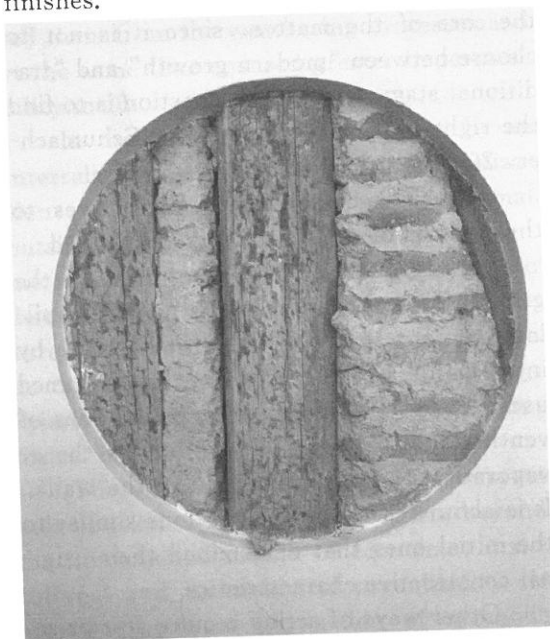


Fig. 3 Rua Nova of Guimarães refurbishment by Távora © Martín Torres Bargiela

In the case of traditional wooden carpentry that has simple glasses, it is possible to maintain the original ones only replacing these glasses with double glasses that reduce thermal losses (Vegas & Mileto, 2011. Fig. 4).

4.2 Final considerations

It is about seeking solutions with a transdisciplinary approach that repropose traditional integral solutions and try to escape from standardized solutions that at first sight seem very efficient but that leave

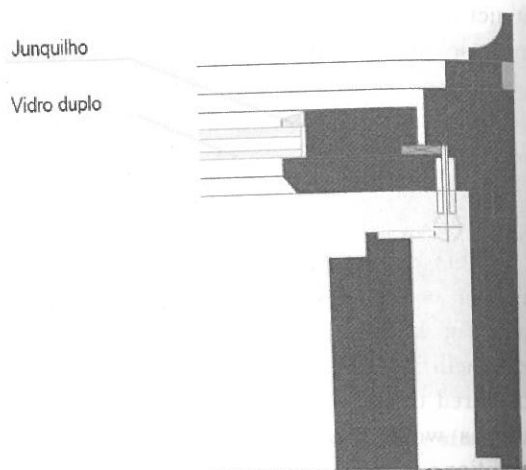


Fig. 4 Implementation of double glasses in wooden carpentry. © Mónica Alcindor Huelva

behind regressive consequences. It is important to not forget that traditional rural settlements arose from the active and dialectical interrelation between ecological and cultural factors and it is a cultural richness that we should try not to lose but try to adapt to the new requirements.

It would be necessary to establish circuits of information on the physical and territorial dimension of ordinary economic activities that the dominant monetary analysis ignores, in order to enable society to redesign, in the light of this new information, the rules of the economic game that condition values and prices. In other words, it is about getting the current system "co-evolves" adapting to other demands and if it was to affect the patterns of construction and consumption that rethink the prevailing management mode, restoring and prioritizing physical and social information circuits linked to such management and shaping instruments and prices based on that information (Naredo, 2007).

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