

LIGHT AND AIR. ARCHITECTURE AND MUSIC

About precision in the use of light in architecture

PUBLISHED IN

Un arquitecto es una casa. Memoria del curso 2009-10. Madrid, 2010

Sharpening the scalpel. Madrid, 2019

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In this essay we try to establish a connection between the musical instrument and architectural space. The musical instrument, trespassed by air, produces the gift of music. Architectural space, trespassed by light, produces that unspeakable thing called architecture. In both cases, air and light should be measured with absolute precision.

“The air is calm and dresses in beauty and unusable light, Salinas, when your extreme music sounds, guided by your wise hands” (El aire se serena y viste de hermosura y luz no usada, Salinas, cuando suena la música estremada, por vuestra sabia mano gobernada). So begins the Ode III to Francisco Salinas, where Fray Luis de León speaks about light and music in such beautiful words.

And the truth is that architectural space is similar to a musical instrument. Both in wind and string instruments the secret is in the air. Air passes through the wind instrument and vibrates inside the string instrument. Air brought into a flute, as well as air vibrating over the tensioned strings of a cello, generate something as sublime as music. Without air there would be no music.

And in a similar manner, light, natural light, sunlight, by crossing a well-tensioned space as conceived by the architect, through a precise fenestration, generates that emotion hard to describe that only architecture can awake. Without light, architecture would not be possible.

In the same way that a musical instrument must be well built, well tuned and well executed for music to sound correctly, also architectural space should be well conceived, well developed and well-built for architecture to appear.

IDEA, CONCEPTION.

The musical instrument and architectural space should be correctly conceived. It is necessary to have a clear idea of what one wants to achieve. And immediately, to know how to do it, to control with precision the shapes, dimensions and proportions that allow the desired results.

If one wants to listen to violin music, one should build the instrument with the shape, size and proportion of a violin. A violin is not the same as a guitar.

Today I was listening to a radio broadcast about a Museum exhibiting musical instruments. And it felt unnatural that musical instruments, whose reason to exist is music, were exposed like corpses, dead bodies. Musical instruments should sound, create music.

If an architect wants to create a space tensioned by light (can there be a space with no light?), he should conceive it with the exact shape and proportions so that the building wakes up every morning, and, according to the rhythm of time and light, comes to life throughout the day. The concept of a project should contain since its inception that inescapable relationship to light. I cannot stop insisting that a clear idea about a project

is the essential foundation for architecture to appear. And light should be in the centre of that idea.

This is the first phase, when the traces of the architectural project are decided. It is the time to know what and how will architectural space be built.

DEVELOPMENT. FINE-TUNING.

If even the most perfectly built musical instrument needs tuning, the same thing happens with architectural space. And this architectural fine-tuning is not only the very thorough attention some architects dedicate to detailing. Fine-tuning in this case refers to the precision in the relationship between space and light.

Maria Zambrano said that poetry was “the word agreeing with the number”. And the same sense, Osip Mandelstam suggested that “in poetry all is measurement”. On this account, this precision, which is a precondition for poetry, plays the same role in music and architecture.

Precision is essential in all artistic creation. Art, artistic creation, is often vulgarly confused with the rude gesture, the whimsical, arbitrary form. On the contrary, artistic creation demands an enormous precision and refinement, which in turn require wisdom and time from the creative artist.

So that the musical instrument can sound to that extreme music described by Fray Luis de León, it must be finely tuned. In string instruments, the strings must be tensioned with absolute precision so that they can vibrate in the desired range. And in wind instruments, the diameters of the tubes and the holes must be exactly defined.

For architecture to sound as divine music when touched by light, it must be well tuned. It is necessary that the placement, shape and dimension of the openings relating to the exterior, to the light, are perfectly defined by the architect. Doors, windows and skylights should be understood as openings in architectural space, which relate it to the light, the views and the air. Therefore, everything must be precisely defined in this second stage, the construction drawings. This stage is not a simple mechanical development of the preliminary design. It corresponds to a real fine-tuning of the instrument.

CONSTRUCTION.

Once the musical instrument is built and tuned, it must be very well played, so that music can sound. A good musician holding a good, finely tuned instrument will be able to create the precise notes that will deeply stir our emotions.

In architecture, after the concept, which is a mental construction and its detailed development into what architects call the construction drawings, the interpretation of the piece corresponds exactly to its material construction. The construction is a true interpretation of the initial ideas. It is hardly a mechanical application of the construction drawings. The mindful supervision of the construction works is essential for the architect to tune the architectural body even more.

I have often quoted Saramago to express, in his words, that architects have little brains in the tip of their fingers, which is to say that we think with our hands. And I recently read

that a great composer from Seville in the 17th century, Francisco Guerrero, used to praise Pedraza, the wonderful organ player from the Cathedral, by stating: "in each one of his fingers I see an angel". There it is. The architect is someone who builds ideas and thinks with his hands.

In the case of music, it is easy to distinguish between building, tuning and playing an instrument.

In the case of architecture, the physical, material construction is what we consider to be the interpretation of the initial idea.

And then light, as air in music, will cross the space created by the architect so that it sounds well. And, as if it were a miracle, when light arrives, that power of touching time is produced, something that cannot be grasped but is nevertheless within our reach, and deeply moves us. That light is the builder of time is not a correct sentence for an educational text. This special miracle is a tangible reality we can touch.

In my Caja Granada building, the clear and definitive proposal consists on the dialogue between the large central space and sunlight. I have never seen two interpretations alike—each day and each hour sounds in a different way, and always sounds well. And it always manages to thrill us deeply, including me.

The directors of my Nursery for Benetton in Venice have put out a little book I found very exciting, since it was full of images showing that they had clearly understood my intentions for that building. In one of those images, a little girl was touching the imprint of the Sun on the wall, while shouting "Il sole! Ho toccato il sole!"

And just now, on my table, I mean on my computer, still beating, the ungraspable space that a young Portuguese architect, Paulo H. Durão, and I are developing for Gallarate Airport in Milan, where we planned a box filled with radiant light, as if it were a cloud trespassed by sunlight. I hope to come back here and show you the built work.

FINALE

Definitely, when proposing this comparison between musical instruments and architectural spaces, I want to insist once more that the works of architecture that really matter are not born from fashionable fads or arbitrariness or from easy formalism able to impress the ignorant. On the contrary, architecture demands clarity in its generating ideas, precision in its development and adequacy in its construction. And always an understanding of light as its main component.

We all know the classification of architecture works proposed by Paul Valery in his *Eupalinos*: mute buildings, speaking buildings and singing buildings. Well, to make them sing, we must conceive them well, tune them well, and build them well. And thus architecture will sing the highest music and will be able to bring light and happiness to mankind.