

**LINE VS. PLANE**

**The plane that becomes a line**

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The plane that becomes a line

If in front of us a large, horizontal rectangular plane is raised, as Mies Van der Rohe did in The Farnsworth House, and the plane is complete and a little lower, we will see, because of perspective, a trapezoid. If we could continue to raise the plane until we reached the height of the eyes, the line of the eyes, the trapezoid would disappear and before us there would be nothing but a straight line. For if we raise to eye level the horizontal plane of the earth (what the Italians call *piano terra* and the French *rez-de-chaussée* and the English *ground floor*) this plane becomes a horizontal line and the whole appears before us with an insurmountable lightness. This so simple to understand and to apply, is an architectural mechanism. It is a means to materialize the idea of lightness. It is a means, never an end. A simple and effective mechanism easy to repeat as many times as one wants and needs. This is how I did it in Entre catedrales, in Cádiz and in some of my podium houses and the lightness achieved, from the outside, is surprising.

In the text Plano Horizontal Plano that I wrote for the book *Principia Architectonica*, this subject is developed extensively and so clearly that I believe it is more than appropriate to transcribe it here.

### HORIZONTAL PLANE FLAT PLANE

The flat horizontal plane, the platform, is one of the basic mechanisms of Architecture. In this text we want to take a step further in the understanding of this Flat Horizontal Plane not only as a first mechanism of Architecture, but, when it is high, as a spatial boundary between the stereotomic and the tectonic.

In the British Museum there is a beautiful drypoint etching by Rembrandt, *Christ presented before the people*, made in 1655, in which among the strokes made by the brilliant hand of the painter stands out the central horizontal line as the basis of his composition. The upper plane of the stone platform on which the scene takes place, a flat horizontal plane, is placed at such a height with respect to the viewer that it becomes a mere line. And so perfect is this horizontal line that it would seem that the master has used a ruler to make it. Or better yet, that his pulse here was perfect.

Rembrandt was clearly inspired by an earlier engraving by Lucas van Leyden. However, Leyden's viewpoint is higher, more bird's eye view, so that the main plane looks like such a plane, like a trapezoid. But Rembrandt, the master, goes one more turn of the screw and, lowering the point of view a little, turns the horizontal plane into just a line, demonstrating his wisdom in the precise handling of spatial mechanisms.

The double term used in Sacred Scripture in the account of this scene is very expressive. In the corresponding passage it speaks of *Litostrotos*, in Hebrew *Gabbata*. *Litostrotos*,

as its own root *lithos* indicates, means in Greek stone floor, what in English is called paving. And *Gabbata*, in Hebrew, in Aramaic, means elevated place, high. That is the double condition of this podium, which is an elevated place built in stone.

Of course, if Rembrandt borrows Leyden's image, correcting it by reason of the perfect horizontal line at eye level, Picasso in his *Ecce Homo: Picasso's theater* borrows Rembrandt's form and, in his very free version, preserves the horizontal line of the edge of the raised dais, of the *Gabbata*, at the exact eye level. And as in Rembrandt, the line is so horizontal that it seems, or is, drawn with a ruler.

It is curious how both geniuses coincide in their perspicacity in understanding, in an astonishing premonition, the conversion of the flat horizontal plane into line when it is at eye level. What Mies van der Rohe will later use in the Farnsworth House and later repeat in some works such as the Seagram's podium on Fifth Avenue: the plane becomes a line in front of the viewer, which makes the house appear even lighter. *Let less is more become reality.*

It is this flat horizontal plane, that of Rembrandt, of Picasso and of Mies, that is what we are dealing with here. As a limit, and this is the novelty, between the stereotomic world and the tectonic world.

It is very significant that Jorn Utzon in his text "Platforms and Plateaus", at the very beginning, states that:

The platform as an architectural element has a fascinating appeal. I was first taken with it on a study trip to Mexico in 1949, where I encountered many variants of platforms, of all sizes and conditions, and where many of the platforms are isolated with nothing but the surrounding nature.

So much so that the platform, the raised horizontal plane, was the central theme of many of Utzon's architectures. So clear is the idea of the horizontal plane in architecture: an idea of yesterday, today and tomorrow. The horizontal plane puts man on earth in relation to the physical sky, because of gravity, on which the human body depends, for man has the greatest sense of balance on the absolutely horizontal plane. And being this limit plane, separation of two worlds, it is also the plane where these two worlds, tectonic and stereotomic, meet.

Kenneth Frampton in his book *Studies in Tectonic Culture*, following some profound and extensive comments on Utzon and his work, rightly analyzes the validity of the horizontal platform as a universal architectural mechanism. Frampton takes up and brings to life some of the forgotten theories of Gottfried Semper. Especially brilliant is the distinction he makes between the Stereotomic and the Tectonic in Architecture. The Stereotomic refers to the heavy, the gravitational, the immobile, the unitary, the continuous. The Tectonic refers to the light, the mobile, the fragmented, the discontinuous. Frampton did not imagine the ability to generate new architecture from this idea that he recovered. In our case we owe the recovery of these ideas to Jesús Aparicio, who after his stay as a

Fulbright scholar at Columbia University transmitted them in Madrid, and later collected them in a wonderful book entitled *El Muro*.

The Real Academia Española de la Lengua, defines a flat surface as "the one that is parallel to the horizon placed at the bottom of the frame", and defines the horizontal plane as the one "defined by the surface of a liquid at rest". It is curious that he uses a liquid at rest to define a physical situation as firm and stable as that of a horizontal plane.

Also in the text "The Establishment of Architecture" that I wrote some time ago, I made an ardent defense of the horizontal plane, giving all kinds of arguments that somehow had to do with the analysis of Utzon and Frampton. In this text, in a certain way a continuation of that one, I want to insist even more on those arguments, and also explain how it has materialized in a radical way in some of our latest projects.

We try once again to demonstrate that theory in architecture must go hand in hand with practice. It is not a matter of making some projects, building them and then, as if it were a ventriloquist, giving them a borrowed voice. On the contrary, we would like to demonstrate something that is substantial to artistic creation itself, and even more so to architectural creation. That the works built are the result of a thought process that comes from far back, that is linked to past history and that builds future history. A process that can be considered as true research.

## THE HORIZONTAL PLANE BOUNDARY BETWEEN THE STEREOTOMIC AND THE TECTONIC

The proposal of this paper is to try to go one step further, and consider the flat horizontal plane as the materialization of the limit between the tectonic and the stereotomic.

When man first establishes the horizontal plane, he is doing something more important than just satisfying a physical need for stability demanded by the inexorable laws of gravity.

When primitive man settles down and takes possession of a place the first thing he does is to build the horizontal plane. Or he looks for flat places. Then he encloses them in order to delimit them. That plane is the earth itself, it is clearly a stereotomic plane. And when man colonizes the cave, the first thing he does is to establish within it horizontal planes for living or sleeping. The cave is the stereotomic organism that grants man the desired protection and stability. The cave is thus the first house.

And when much later he builds the hut, constructing the horizontal plane with light elements, what he does is something much more important: not only does he rise above the earth to dominate it, but also, with the construction of the mobile horizontal plane, already tectonic, he achieves what is most important, freedom. The hut as a sign of freedom as opposed to the cave. The hut is thus the new house.

When Mies van der Rohe built the Farnsworth House, he carried out an operation that went much further than just making a beautiful, light and transparent house. For the first time in the history of architecture he consciously establishes, as an architect, the flat horizontal plane floating in the air. That is the key to the operation. Moreover, it is not easy to explain why this operation has not been repeated more often by architects. Not even by Mies himself.

Something of all this beats in Adalberto Libera when in his Casa Malaparte he proposes to establish as the main plane of the life of the house the upper horizontal plane, as the beginning or end of a stereotomic podium. As if it were a small acropolis. Like a *temenos*. It is not that the roof of the house is used as a rooftop; it is something more, much more: that plane is the main plane of the life of the house. No one has ever repeated such a radical space. Neither he nor any other architect. The flat horizontal plane, naked, radical, pure, as the main plane of Architecture. A true *temenos*, a place where men meet the gods.

#### ADDENDA

The houses De Blas in Madrid, Olnick Spanu in New York and Rufo in Toledo are exercises in which the starting point is the stereotomic podium to build the horizontal plane and, on it, to construct the tectonic piece.

And in the project Between Cathedrals, in Cadiz, and in the Center for the Interpretation of the Landscape in Lanzarote, and in the House of Infinity, in all of them, this same operation is manifested in an even more radical way. In all of them the central theme is the creation of a flat horizontal plane in high, radical and naked. Nothing more and nothing less.

In none of these cases is it a flat upper deck that is taken advantage of or colonized. Quite the contrary. As Utzon puts it very well in the last paragraph of his text already quoted: "Materializing the platform, making it visible and preventing it from disappearing is a very important issue when you start building on it. A flat roof alone does not express well the flat character of the platform" of the flat horizontal plane.

For our part, from the very first moment, there has been a clear and resounding desire for this plane to be the protagonist, the central idea in these projects. And if in the last ones we have eliminated any emerging element it is not because of purism or supposed minimalism. On the contrary, the spatial strength of the horizontal platform in front of nature is such that any other element could distort it. A flat horizontal plane between the stereotomic and the tectonic. Between the earth and the sky.

It is clear that this is only possible in places that, on the one hand, have a far horizon landscape where this operation makes sense and, on the other hand, where the climate makes possible the intended function in that open sky space. In all these cases, in all

three projects, the far horizon is the western line of the Atlantic Ocean. And in all three places the climate is privileged.

## THE THREE PROJECTS

The first of these is the one we called Entre Catedrales in Cádiz, which is said to be the oldest city in the West. We were asked to "cover an archaeological excavation" and we gave the city a public space. For this we did more than just a flat roof: we built a horizontal plane, paved with white Macael marble, with a lateral ramp for easy access. And with a white canopy at the back to provide some shade. Embraced by the two cathedrals, the raised platform prevents the vision of the cars passing in front, and we only contemplate the sea, in an effective operation of abstraction. As if it were the deck of a ship or Aladdin's flying carpet. The immense Atlantic Ocean before us. Nothing more and nothing less. A plane that clearly belongs to the tectonic world.

The Lanzarote Interpretation Center is located on the hills surrounding the Janubio salt flats that open to the sea. In the center, at the top, a large square horizontal plane of 90x90 meters, black as the lava of the whole island, capable of spatially assessing, underlining, the fascinating landscape in front of which we are. To establish this great plane we built strong retaining walls whose interior we then colonized. In the horizontal plane we excavate a "trench" entrance and some courtyards that will serve the functions that are housed inside. The shadow produced by these excavated spaces gives even more strength to the operation. A plan that clearly belongs to the stereotomic world.

And the same could be explained about the Casa del Infinito in Tarifa, Cadiz, also high up, in front of a dune in front of the sea. A piece of paradise where we placed a square horizontal platform of 20x20 meters built in stone, in Roman travertine. Again in front of the sea, enhancing and accentuating the landscape that opens before us.

In all three cases the geometry adopted, open to all orientations, further clarifies the spatial definition proposed. Especially when they open to the west, to the Atlantic Ocean, parallel to our border line to that of the horizon of the sea. The climate in these places is perfect for these spatial operations. We can remember here how the "azoteas", the upper plane of the houses, have traditionally been usual places to stay in these insular and coastal areas. One could bring up some well-known images of Le Corbusier. I still remember my experience as a child, in Cadiz, when we used to run on the roofs of the house, while the women chatted quietly in that privileged living room under the open sky. From there we could see the sea and the sunsets. Time was suspended there.

The flat horizontal plane, radical, without any intermediate element, will accentuate the spatial qualities of those places of distant horizon described. In them, it would seem that the sea is coming towards us. Or it seems that, as if we were riding on an Aladdin's carpet, we were the ones approaching it. The functions of stay, of solarium, of relationship around the swimming pool, of going down in trench to enter, or of sheltering from the wind in the excavated parts, will develop there adequately.

To understand that it is perfectly possible to perform the intended functions on a flat, radical and bare horizontal plane, it is useful to think of the decks of ships. For being on a flat horizontal plane is like being on the deck of a ship in the open sky.

Unlike previous projects, in which the horizontal plane appears on which some element containing functions is built, the turn of the screw that involves the single horizontal platform as the main plane of these architectures implies a contribution to Architecture: the construction of the flat horizontal plane in a radical way.

In all cases the materiality of their construction, white Macael marble in Cadiz, black concrete in Lanzarote and Roman onyx travertine marble in Zahara, effectively qualifies the spatial strength of these operations.

## FINALE

In short, it is a matter of returning once again to defend the flat horizontal plane as the boundary between the stereotomic and the tectonic world. Well defined in proportions, dimensions and materials, as one of the basic mechanisms in Architecture, over and above time.

That which, as Utzon wrote in his "Platforms and Plateaus", the Indians did in ancient times with their platforms over the jungle, and which the man of our time is still looking for: "to inhabit the abode of the gods", happiness. In our case through architecture.