

The Art of Architecture

An Interview with Santiago Calatrava

EDITORS' NOTE *An internationally recognized and award-winning Spanish architect, sculptor, and structural engineer, Santiago Calatrava has his principal office in Zürich, Switzerland with additional offices in Valencia and New York City. He pursued his undergraduate architecture degree at the Polytechnic University of Valencia along with a post-graduate course in urbanism. Following graduation in 1975, he enrolled in the Swiss Federal Institute of Technology (ETH) in Zurich, Switzerland, for graduate work in civil engineering. After completing his doctoral thesis in 1981, he started his architecture and engineering practice. Calatrava (www.calatrava.com)*



Santiago Calatrava, shown above with sculptures he created, is architect of the World Trade Center Transportation Hub (opposite page, top) and the Liège-Guillemins TGV Railway Station (opposite page, bottom).

is currently designing the future train station – World Trade Center Transportation Hub – at the rebuilt World Trade Center in New York City. He is also a prolific sculptor and painter, and exhibitions of his work have taken place in Germany, the United States, Spain, and Italy.

How do you define yourself? Do you see yourself more as an architect or as an artist?

Although I started in an art school, I went to an architecture school and I concluded by doing full engineering studies in Zurich and also getting a Ph.D.

Architecture centers my whole activity. Because of the nature of the profession of architecture, the art of architecture nourishes itself from other disciplines.

So when you go, for example, to the Sistine Chapel to admire the paintings of Michelangelo, the vaults of the Sistine Chapel, which are architecture, are a support for painting.

Or when you're facing the façade of Notre Dame in Paris – an example of gothic architecture – the whole façade is as important for a sculpture.

You have been heavily focused on public work. How has your focus evolved?

When I started 30 years ago, the first opportunities I received to work as an architect, instead of as an engineer, were through the competition system for public work.

The first significant work I did was a railway station in Zurich called Stadelhofen. It was almost a miracle because my partner and I were so young. It was like eight years of an enormous apprenticeship because it no longer only involved what we were learning in school – we had to build the station in a short period of time in very difficult physical circumstances, because it was in the middle of the city.

In the meantime, I corroborated on projects in a school and participated in another station in Switzerland, where I started after studying engineering there. We also established our first office in Switzerland because it was a propitious moment to do that.

Those first 10 years were interesting because it was about orienting ourselves.

Have most of your opportunities been in Europe and Asia or have you also found opportunity in North America?

For the first project I did in North America, I was asked as an artist, not as an architect, to collaborate on a big development in the heart of Toronto. I was working with other artists and was in charge of giving form to a street, and I proposed a galleria.

Then I got the opportunity to make a museum in Milwaukee in a beautiful location, close to a great building that was grand in human and professional terms.

We were then invited to design the new transportation hub at Ground Zero, which we are currently working on.

We are also involved in the master planning of a new campus for the University of South Florida Polytechnic between Tampa and Orlando. It not only has an educational purpose, but a macroeconomic one – to develop this region.

We are also working on a special bridge project in Dallas, Texas for the Trinity River. We had to look at this not only as a specific project of creating a bridge, but we also had to evaluate the consequences of building this bridge and how the leaders of the community would support it.

All of the North American projects are interesting and also related in a transcendental sense in that, through a building, you can help lift a city or a community beyond its current state.

You work on multiple projects at one time?

Yes, but it's important to understand each project and deliver to each the attention it deserves.

Projects take time to complete because they are complex and difficult, and it is our destiny to get involved in projects that deliver a lot of credibility to the community, and will change and landmark the place.

We are also a family firm, focusing on projects that have an enormous sense of community.

How challenging is it to bring everyone together and develop a consensus about your concepts for your public projects?

The transportation projects in particular, like Ground Zero, show how complex the mechanism is and how many minds you need to make that work.

The client has to work with several authorities, from the transportation authority to the planning commission of the city of New York.

But once those issues have been worked through, the goal of maintaining the flow of traffic of the people, for example, is not an impossible mission, but you are limited in what you can do because Manhattan is a very dense place. You have so much to build, but the subways and commuting trains have to continue to work like nothing is there.

You also need to consider that those infrastructures extend to the ground level, so you have to deal with all the utilities and the neighbors you are serving with connections and interconnections.

So these are demanding projects that need a lot of expertise at many levels: at the level of the client, the Port Authority; at the level of the project management; and at the level of the different consultants. And the common theme for everybody is delivering the very best from this opportunity of building at Ground Zero.

There has been so much debate over Ground Zero. Is the process working smoothly and are you happy with how you've been able to move forward with the project?

Yes. It was not my first experience with transportation. So I have enough background to understand the precise role I have to play in that complex system, as well as having the endurance to persevere through the issues that one deals with in very complex technical or even political situations.

Also, I understood from the beginning that my client, the Port Authority, had the will to do an exceptional project, which means they continue to maintain the airport, the roads, and connections, while they work to deliver something new. They've also been personally involved in the drama of the Twin Towers because they lost an enormous number of people.

So that left not only an abstract to propose, but I also understood there was a very important human dimension for this corporation that wanted to make this an important next step.

Has technology changed the way you work or has your process remained the same over time?

Just in terms of communication, it has allowed me to have several small offices that are interconnected.

In terms of the work itself, you have to differentiate the conceptual part and the development of the concept. The conceptual part works today like it did in the time of the Egyptians: you draw out your concept.

But from the moment you jump in with the production, there is enormous progress, because you have, via the Internet, an extensive library. You can gather an enormous amount of information to solve a problem and can also communicate with other people.

So the change is via communication and transportation, such as being able to fly to a location quickly.



When approached with a project, what is the most important thing you look for to see if it's the right project for you?

It's always exciting to do completely new things, so the door is never closed. I'm not specialized in bridges, transportation facilities, or in music facilities, so you have to start certain things from zero.

It is important to determine what you can bring to the project and to know that what you can bring is special. So we look to every project in a very fresh manner, like an adventure.

We also look at a project in terms of economics; everybody dreams of being permitted to work without budget boundaries. I personally think that having a budget is good, because austerity is an important quality. But refining your project in terms of taking away things that are costly also purifies your project and brings it into a more elemental expression.

In any case, it is important to have a good client; somebody, like the Port Authority, who is willing to do something with a clear intention, something exceptional or with a particular characteristic. In the history of architecture, you may find a lot of great different projects, but they all have good clients behind them.

Clients want you heavily involved. How important has it been for you to build that next generation of leaders who will be able to produce and develop these projects?

Education is very important. I always considered the role of teaching to be very noble and relevant. However, my vocation was not to become a teacher, although I came into contact with several universities.

My team is very young and they are so passionate to work with. So I have always understood that my work is much more than what I can deliver; it's more related to the intimate atmosphere of the office and drawing, sketching, and producing sculpture and ceramics, and other things.

But in one way or another, I am in contact with young people and I am giving them the opportunity to learn something.

Do you have time to still do some of the art you enjoy so much?

It's important to combine both things, because in drawing, painting, sculpting, and working in ceramics, you are dealing with fewer boundaries than in working as an architect where you have a program or a budget, or you have a lot of complex activity.

So an artistic activity in which you can express yourself with more freedom is very good, because it allows you to go beyond what you have done and explore new things.

When you finish a project, do you take the time to enjoy it or are you always on to the next?

As soon as the opening happens, the building belongs to other people.

This is a beautiful part of being an architect, because you maintain a certain anonymity. But you also feel more attached to the workers because you know, for instance, who poured the concrete for the foundation and they are more part of the work than yourself, because they have put their hands on it.

This is still a very beautiful old profession in which our roots are gold but the technology brings us to enormous achievement.

If you think back to the first project in Zurich, could you have imagined you would have had so much success?

At that time, I was very young and full of dreams and hope. And life has been very generous.

But it is important for young people in these difficult times to understand that they have to persevere, have goals, be generous, and be flexible. It's about being curious enough to live in different places, to get in touch with other people, and be part of life to the extreme.

It's important to start each day with a positive sense of what is to come, even if you don't know what tomorrow will bring. ●

