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Santiago Calatrava
Milwaukee Art Museum
Milwaukee, Wisconsin, since 1994

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In 1994 the Milwaukee Art Museum Trust announced an invitational competition for a new entrance design and the redefinition of the overall identity of the museum. Santiago Calatrava won the competition after a first round that had narrowed the field to three finalists, who were asked to submit design proposals.

The competition announcement called for the complete reorganization of a museum complex that had expanded over the years and presented a particular challenge: the unification of two distinct projects with very different characteristics.

The first element is a War Memorial designed by Eero Saarinen in 1957. It is a two-story cruciform building in reinforced concrete, suspended on pylons and projecting over the shore of Lake Michigan. It is a strong symbol, recognizable from afar, a "modern" monument perceived as an isolated presence within the heart of Milwaukee's coastal park.

This was followed, in 1976, by David Kahler's project, a "hidden" building element organized on two floors, for a 16,000-square-foot art gallery; it is built into the embankment that separates the War Memorial from the lake. A silent, almost anonymous presence, its sole goal was to contain the new, growing art gallery and many of the pertinent service spaces. Spatially, it was designed to have a direct connection with the surface of the lake, without any visual tie to the city that lies behind.

Since the mid-seventies, the museum has continued to grow, thanks to a significant acquisitions policy and the diversification of its cultural and social activities. Thus the problem posed was the reformulation of the museum's overall identity, through a new addition that would lead to the functional reorganization of the entire museum complex and also guarantee a different formal and symbolic visibility for the museum's role within the city.

The addition of a new, 7,500-square foot exhibition hall and conference room and, specifically, the construction of a new entrance designed as a reception area and to house information areas and a restaurant thus became the central theme of the competition.

The designated area is located in a triangular lot, next to the old museum, between the lake and the heavily trafficked Lincoln Memorial Drive. The latter, a main thoroughfare, will be crossed via a pedestrian bridge that leads directly from O'Donnell Park, which lies behind. At the same time, vehicular access to the museum will be provided through a parking area located beneath the new addition and the entrance to the new end of the museum.

Calatrava's winning design is based on two fundamental principles. First, the exhibition hall is aligned in section with the pre-existing building by Kahler, a structure flattened to the ground in an attempt to have direct contact with the lake. Second, the entrance is connected to the footbridge, a monumental, cantilevered presence in relation to the exhibition hall, which is resolved vertically and has a movable roof structure.

This is the second competition the Valencian architect-engineer has won in the United States. In 1991 he submitted a winning design for the completion of St. John the Divine in New York. Several years earlier (1987-92), he built the BCE gallery in Toronto. In 1992-93 his sculpture *Shadow Machine* was installed in the garden of the Museum of Modern Art, New York.

The Milwaukee design attains, and in some respects goes beyond, the creative threshold maintained by Calatrava's work overall. The consistency of his personal development and the contextual demands seem to have merged, generating a "hybrid" work that bears many of the characteristics that, still today, make the work of this Spanish artist unique.

Bridge design and architecture come together and are integrated to compose a single element, in a way that definitively puts an end to useless polemical quarrels that artificially see oppositions in Calatrava's double background as an artist-architect and as an engineer.

The bridge is resolved through an asymmetrical structure supported with a slanted pier placed perfectly on axis with the midline of the movable roof. The two oblique lines of the pier and the roof are placed at the same slant, to reinforce a unified perception of the entrance and a perfect interpenetration of the two elements "launched" toward the lake behind.

The visitor descends slightly along the bridge, to emerge directly into the large entrance atrium, which is located in the shadow of the striking glass roof, and where the reception and restoration facilities are also housed.

This is a "hybrid" work where various design and research approaches merge, a work that demonstrates an implacable desire to compose a new unified frame-work within the architect's own creative experience. As a result, one can see, simultaneously, the recomposed fragments of a heterogeneous work in progress.

The exhibition gallery, with its large depressed arches in reinforced concrete, may seem like a grand homage to the work of Eero Saarinen. Yet behind these broad vaults, there is a developmental line that leads from the tunnel of the TGV station in Lyon-Satolas, back to the Piranesi-like interiors of the Oriente Station in Lisbon, where, in 1994, the architect took his first, decisive steps in this direction.

The same could be said of the new entrance, where the dimensions of a body in motion, addressed earlier in the *Shadow Machine* in New York or in the design for the roof of the Reichstag in Berlin, are perfectly integrated with the pedestrian bridge. The bridge design echoes the contemporary Manchester footbridge and the earlier swing bridges in Bordeaux.

There is continuity in his definition of the characteristics of a language that he continues to construct, like a delicate and complex metabolization of earlier experiences. This continuity is superimposed by two conditions that Calatrava's work always seems to satisfy: a strong attunement with context and an affirmation of the public work as a monument within a given territory.

It might seem difficult to find a balance between these two apparently contrasting qualities. However, two earlier projects demonstrate these seemingly opposite poles. The Stadelhofen station in Zurich exists as a skillful cut in the ancient walls of Zurich and reassembles a radical separation between the different parts of the city. In contrast, the TGV station in Lyon-Satolas is a plastic gesture, a strong sign in the center of an area that, otherwise, has no clear identity or hierarchy.

The Milwaukee project also displays this conceptual attitude. On the one hand, the new addition is connected to the existing building with extreme naturalness and simplicity, reaffirming a dialogue with the surface of Lake Michigan. On the other hand, the new entrance, with its large movable roof, clearly asserts itself as the center of the composition, in distinct opposition to the existing monument, the Saarinen War Memorial.

However, this opposition could be interpreted as an attempt to balance the final composition of the new museum complex, through the creation of an interesting *monumental duality*.

And, indeed, it is on the roof and its formal and technological definition that Calatrava has focused much of his attention. Through the movement of the large roof, as in many of the movable structures he has created previously, Calatrava sanctions a definitive annulment of the opposition between artistic gesture and technological research and reaffirms the symbolic and communicative value of architecture in contemporary society.

Public architecture's monumentality, a condition often undervalued in international circles, is restored through the definition of a new identity that revives the need to astonish and capture the fleeting attention and glance of the visitor.

Lightness of movement and the need for stability of every structure seem to have combined,¹ reaching an extreme limit that the architect pushes further with every project. This duality is crystallized in a moment, suspended, stopped before it is too late.

The continuous interest and study of organic forms in their growth and development is combined with one of the most extreme qualities of the twentieth century - movement - generating forms that are apparently never at rest.

This mechanism, conceived to generate movement, progressively loses solidity and seems to disappear in the wake of the amazement it arouses. In the impressive wingspan of the roof, which is like a manta ray that circles placidly in the sky, the values of transparency and material and structural lightness go beyond any previous work. This opens a new chapter in Santiago Calatrava's production, one that will continue with his designs for the Father Junipero Serra chapel in Los Angeles and the Southpoint Pavilion for Roosevelt Island in New York City.

¹ An important contribution by Alexander Tzonis and Liane Lefaivre, *Movement Structure and the Work of Santiago Calatrava* (Basel, 1995) deals with the complexity of the relationship between architecture and movement in this architect's work.