

Session Track: Catalan Vaults
Session Code: CS12a

Paper: The Guastavino System: The Spanish Contribution to the Construction of the American City and its Architectural Identity

Presented by

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Speaker(s) Biography

Mar Loren graduated from the School of Architecture at Seville University in 1993. She has been a registered architect in Spain since 1994, running her own firm and working as a consultant for others.

In 1997 she finished a Master in Environmental and Preservation Technology at the International University of Andalusia in the European Union Program Leonardo da Vinci. In 1998 she graduated from Harvard University, where she received a Master in Design Studies from the Graduate School of Design. She has a PhD in History of Architecture from the University of Seville (2004).

Her PhD Thesis "The construction of the American Architectural Identity at the turn of the 20th century. A vision through the Spanish contribution: the work of the Guastavino Company in the United States" was the first PhD. Thesis on the Guastavino Company work in North America; it is about to be published.

Mar Loren has been a Professor of History of Architecture at the School of Architecture in Seville University since 1999. She previously taught at the Boston Architectural Center in Boston in 1998 and in 1999.

She currently works on the American Architectural Identity and History of Spanish Architecture, with papers published and presented on the subject since 1999. She is working now with the Andalusian Government -Andalusian Institute of Historic Heritage and Ministry of Culture- on different research projects that deal with Contemporary Andalusian Architectural Heritage.

Abstract

"...Many will doubt that the mere introduction of new elements, iron and cement in constructive function can be sufficient cause to originate a new era of architectural art, and in consequence initiate the beginning of the end of the great parenthesis of the period of transition inaugurated with the appearance of the Renaissance, following the decadence of the Gothic art." (1)

Rafael Guastavino I Moreno announced with these words the beginning of Modern Architecture at the end of the 19th century in an American publication. Since his professional beginnings in Barcelona, he always worked on the modernization of architecture and was considered by members of the succeeding modernist generation such as Doménech I Montaner as "an artist of exceptional qualities," pioneer of a "revolutionary" architecture. (2)

His arrival at the United States with his son Rafael Guastavino I Expósito in 1881, the foundation of a construction company in 1889, the modernization of the "bóvedas tabicadas", a historically derived

thin masonry vaulting system, and his business vision converged to make possible a new kind of public space in the American modern metropolis, carving its architecture and conferring an urban dimension to its interiors. The Guastavino Company collaborated in the great projects of the moment, defining their space through geometry, tectonic, scale and technology.

The majority of these buildings by the Guastavino Company are now catalogued as landmarks as the result of the public and private efforts to protect what they consider their heritage, their history, becoming part of the History of American Architecture. The process of restoration of these architectural icons pushed both American professionals and researchers to study the Guastavino System (3) in order to understand this imported system to restore it.

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Architectural History is not a static and “passive” discipline that is in charge of explaining what happened, why and when. Architectural History should serve as a powerful tool to “read” our Heritage in order to propose compelling restoration projects that may soon be part of the History of Architecture.

From that perspective, the American context is especially critical since it has been the meeting point of different cultures and histories of Architecture. The American preservationists are pushed to study these heterogeneous origins and are continuously confronted with “the unknown”. This diversity has made America especially sensitive to the value of these architectural contributions imported from other cultures.

Within this context the discovery and study of the Guastavino Company has been paradigmatic in the last fifteen years in the United States. I will provide an insight into its contribution based on four levels of analysis: 1. the politics of identity, 2. architectural discourse, 3. the making of the American city, and 4. its place in the American Heritage. I shall conclude by emphasizing the obvious demand for a better understanding of its production in order to restore and preserve it as an important part of the History of American Architecture. This will include an overview of the restoration of some key projects as well as the techniques used.

(1). Rafael Guastavino I Moreno, *The function of masonry in Modern Architectural Structures*, (Boston, 1904), 83.

(2). Lluís Domènech I Montaner and Francisco Rogent I Pedrosa, *Arquitectura moderna en Barcelona*, (Barcelona, 1897), Lámina LXV.

Session Track: Catalan Vaults
Session Code: CS12b

Paper: La vuelta Catalana en la arquitectura del siglo XXI

Presented by

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Speaker(s) Biography

Nací en Barcelona el 1963, estudié highschool en Oregon USA el 1982, me gradué arquitecto en la ETSAV de Barcelona el 1992, trabajé un año en Milán con el arq. L.Ferrario, en 1994 abro oficina junto con M. Poch arq. en Girona para proyectos de rehabilitación, dos años después abro un segundo despacho con los arqs. L. Feu y C. Folch en Barcelona para desarrollar proyectos de mayor tamaño para promotores inmobiliarios. En 1999 como socio de Arquitectos Sin Fronteras desarrollo un proyecto de cooperación en Bangolo, Cote d'Ivoire, junto a la arq. M. Alcindor que más tarde será mi mujer. A continuación formamos ARP-Architectures en Torroella de Montgrí, especialista en desarrollar técnicas históricas para la construcción de viviendas nuevas y rehabilitación. A partir del 2004 mi mujer y yo trabajamos independientes en una oficina en Banyoles bajo el nombre de www.bangolo.com. En los últimos quince años he podido realizar varios viajes con la arquitectura popular como argumento principal (Rajasthan, Cuba, Marruecos, Túnez, Egipto, Guatemala, Irán, Suecia, Kerala, Sicilia, etc.). De estas experiencias he dado varias conferencias para la UNESCO en Barcelona. Desde el 2002 estoy desarrollando mi tesis doctoral sobre arquitectura tradicional y sostenibilidad con el Doctor arq. A. Cuchí como tutor y en el programa de la ETSAB del Doctor arq. R. Serra. Hoy en día he conseguido trasladar mis experiencias de tecnologías tradicionales en la construcción de viviendas de encargo directo a obras de mayor envergadura para promotores inmobiliarios que buscan un valor añadido en la construcción.

Abstract

El argumento de esta ponencia se centra en la utilización de la bóveda catalana como una técnica viva. Esta técnica que durante la revolución industrial tuvo su mayor auge arquitectónico y que Gaudí utilizó con maestría no soportó la entrada de el hormigón armado y la reestructuración profesional de los años 50 del siglo XX. Gracias a Guastavino, esta técnica está presente en algunas de las más singulares obras de New York y Boston. La nueva visión que quiero dar es la de un profesional que continúa utilizándola tanto para obra nueva como para rehabilitación, no me gustan las conferencias donde se exaltan las características arquitectónicas y estructurales de esta técnica pero se refieren como algo ya preterito. Estoy convencido que, como en otros lugares, esta técnica local tendrá pronto su nuevo renacer en la arquitectura del s. XXI. En una primera parte expondré una breve historia de la bóveda catalana, su definición en comparación con otras bóvedas, sus diferentes morfologías y la poca biografía al respecto. A continuación expondría la técnica constructiva en el pasado y su adaptación a la construcción de hoy en día, también relataría el comportamiento estructural de este elemento constructivo. En un tercer capítulo describiría las características de una obra realizada con bóveda, tanto a nivel lumínico, como acústico, resistencia al fuego, envejecimiento, definición espacial etc.. No hay que olvidar las características bioclimáticas, de sostenibilidad, de economía local, de capacitación artesanal y otros aspectos intangibles.

Estos tres puntos servirían para acotar el concepto de la bóveda catalana y a continuación mostraría con ejemplos reales el uso de la misma hoy en día. El primer ejemplo es el de una cocina cubierta con

boveda de medio punto y como se utiliza su capacidad de pantalla reflectora de la luz solar. El segundo caso va de una doveda levantada por una serie de pilares que permiten una total transparencia perimetral y al mismo tiempo se solucionan los empujes horizontales la la misma. El tercer ejemplo es el de una boveda que se intrsecciona con una escalera en su eje longitudinal. El resultado obtenido es de una gran fluidez espacial y recuerda la organizidad de las obras modernistas de finales del XIX. El cuarto ejemplo es el de una casa construida con boveda catalana en Sevilla (en el extremo opuesto de España) donde los operarios desconocian la tecnica. A continuación, el ejemplo quinto, es el de una gran masia donde el cliente era al ismo tiempo constructor y su inexperiencia en la construcción no fue problema para desrrollar una fantastica boveda de grandes dimensiones. En el ejemplo sexto podemos apreciar la elegencia de una escalera de boveda catalana, su simplicidad formal, la transmisión de luz y su capacidad portante. Para terminar se vera el ejmplo septimo que hace referencia a la promoción de tres viviendas para ser vendidas donde la boveda catalana cubre los grandes aparcamientos de mas de siete metros de luz. Para mejor comprensión me permito enviaros el documento PDF adjunto

Session Track: Catalan Vaults

Session Code: CS12c

Paper: The National Arts Schools of Havana (1961-1965): Old World Construction in Modern Tropical Heritage

Presented by

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Speaker(s) Biography

Hänsel Hernández-Navarro specializes in the preservation and rehabilitation of architecturally significant buildings, individual landmarks, and properties in historic districts. His responsibilities include site investigation work and construction administration.

Hänsel served as a preservation officer at the New York City Landmarks Preservation Commission, where he reviewed applications to restore, rehabilitate, or alter city landmarks and properties in historic districts. Prior to that, he worked as an assistant conservator for A. Ottavino Stone Corporation, which specializes in building restoration, fine arts conservation, stone fabrication, and construction.

Over the years, Hänsel has gained extensive experience through a variety of projects involving the preservation and conservation of historic and cultural resources. As an exhibition specialist for the National Park Service, he was responsible for the conservation of Fort Union National Monument. Before that, he served as a site conservator on projects to preserve the Great Stone Church at the Mission San Juan Capistrano in California and an ancient Roman villa for the American Academy in Rome at its site in Tuscany. Hänsel has also worked in various research and writing roles for the Getty Conservation Institute in Los Angeles, the Historic District Council in New York, and the World Monuments Fund.

Hänsel received his Bachelor's of Arts degree at the University of Georgia in Athens, and his Master's of Science in Historic Preservation at Columbia University's Graduate School of Architecture, Planning and Preservation. He has also studied Conservation and Repair of Stone Masonry at West Dean College in West Sussex, England.

Abstract

The creation of The National Arts Schools in 1960s Havana constitutes a moment of visionary optimism following a socialist revolution. A moment in which architecture aimed at breaking with the status quo of the International Style adopted by an elite in the previous decade and help create a new society with a uniquely Cuban identity.

What stands out about the schools, aside from their unorthodox organic design, is the fact that although built in the 1960s, they were made using traditional building materials and traditional construction methods. Made up of brick, tile, and concrete, and combining load-bearing walls, buttresses, and the Catalan vault, these buildings are generally easy to maintain and preserve.

The architects agreed on three principles that would unify their work: the schools were to be responsive to and integrated with the tropical vegetation of the site; the main materials were to be brick

and terra cotta tile, both for practical and aesthetic reasons; and the use of Catalan vaulting as the primary structural system.

Tile and brick were adopted because they were abundant on the island and easy to obtain; both wood and metal were becoming increasingly scarce. Therefore, the floor, the walls, and the ceilings are all made of brick. Seen against the lush tropical vegetation of the site—a former golf course—the combination of brick and tile is also aesthetically pleasing.

The structural system of the Catalan vault came to be used because of the aforementioned practicality of brick and tile, and because of the fact that this Old World technique was ideal to cover large spans of space without columns. While the foundations were being laid, the workers were being taught the technique of the vault by two Catalan masters masons on the site.

The U. S. trade embargo was imposed on Cuba in early 1962 and soon the entire building industry was dramatically affected. At that time there were three Portland cement plants in Cuba producing approximately 220.4 pounds of cement per inhabitant. With no steel, wood and other finishing materials available in abundance, concrete became the most economic structural building material to be used in construction. For the school complex, the combination of some elements in re-enforced concrete in tension and compression, along with load bearing brick walls, was the solution adopted.

A heavily charged symbolism permeates throughout the school's design. The decision to use traditional clay brick and Catalan vaulting was also prompted by a desire to harken back symbolically to a formal colonial architectural language. At the same time, the organic quality of the layout and volumes represents an attempt to pay tribute to the island's African heritage.

This moment of new expression didn't last long. Several factors made it difficult to bring the project to completion: the program's loss of relevance, the lack of skilled labor, and a growing scarcity of essential building materials. In addition, the schools became the target of criticism by the authorities who viewed the project as a bourgeois luxury by individualistic designers in contrast with the collective aims of a people's revolution. Construction of the schools came to a halt in 1965 leaving some of the structures in a ruinous state.

The work presented here will look at the several factors that contributed to the adoption of these traditional materials and craftsmanship in the creation of a group of modern buildings, which included a novel and modern program. A novel program designed for a new society, one which was politically, economically, and socially in transition, on an island situated on the northern regions of the tropics.