

*Jim DeStefano,  
STRUCTURE Editorial Board Chairman,  
reviewed the following books. Good reading...*

## **The Art of Structural Design** A Swiss Legacy

*Author: David P. Billington  
Publisher: Princeton University Art Museum*

This book chronicles the lives and works of four Swiss born structural designers, and two professors from the Swiss Federal Institute of Technology in Zurich who trained them.

Wilhelm Ritter (1847-1906) taught structural engineering when it was a new, emerging technology. He concentrated on graphical methods of structural analysis and stressed the importance of aesthetics in the design of structures. Two of his most accomplished students were Robert Maillart and Othmar Ammann.

Robert Maillart (1872-1940) became a master at designing reinforced concrete buildings and bridges. He is most known for his graceful concrete arch bridges, constructed throughout the Swiss countryside.

Othmar Amman (1879-1965) emigrated to the U.S. and became the chief engineer for the Port Authority of New York, where

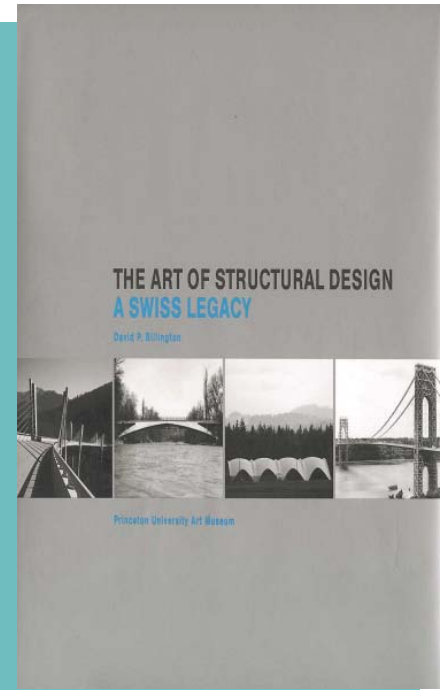
he was responsible for the design of the bridges surrounding New York City. His suspension bridges included the George Washington Bridge, the Bronx-Whitestone Bridge and the record-breaking Verrazano Narrows Bridge.

A generation later, Pierre Lardy (1902-1956) followed in Ritter's footsteps, teaching at Zurich. Lardy also had two students that went on to become brilliant structural designers, Heinz Isler and Christian Menn.

Heinz Isler (b. 1926) was a pioneer in the design of thin shell concrete structures. He developed the shapes of his shell structures by building study models using fabrics in tension and inverting the shape.

Christian Menn (b. 1927), like Maillart, has designed magnificent concrete bridges throughout the Swiss countryside. He also designed the recently completed Bunker Hill cable-stay bridge in Boston.

For the author, David Billington, the study of aesthetics in structural design has



been a lifelong passion. Prior books by the same author include *Robert Maillart's Bridges: The Art of Engineering* (1979) and *The Tower and the Bridge: The New Art of Structural Engineering* (1983).

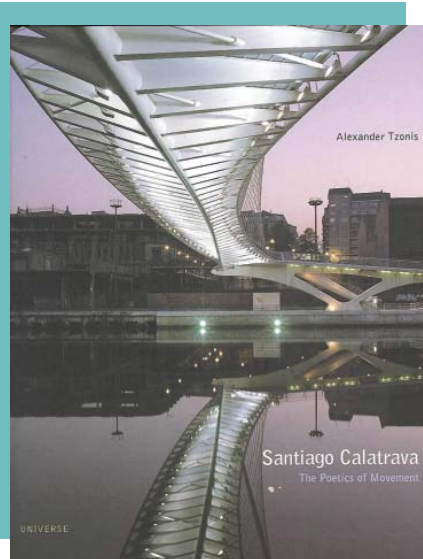
An exhibit of *The Art of Structural Design* is currently on display at the Princeton University Art Museum through June 15, 2004.

## **Santiago Calatrava** The Poetics of Movement

*Author: Alexander Tzonis  
Photography: Paolo Rosselli  
Publisher: Universal Publishing*

Santiago Calatrava is perhaps the most extraordinary structural designer of our time. His bridges and building structures are works of art that can take your breath away. Calatrava is one part structural engineer, one part architect and one part sculptor.

While most of his projects are in Europe, he is best known in the U.S. for his design of the Milwaukee Art Museum (featured in the May 2002 issue of *Structure*). Although the text of the book (which tends to over intellectualize Calatrava's work) probably won't keep you on the edge of your seat, the photographs and graphics will.



## **Publisher's Note:**

*Have you read a good book lately? Whether it is about structural engineers, interesting structures, business issues, or just good reading, we would like an opportunity to include your review in future issues.*

*Please send your Book Case entry to [publisher@structuremag.org](mailto:publisher@structuremag.org). Include the full information on the book (title, author, publisher, etc.), as well as your contact information. We can work with you and/or the book's publisher for possible graphics to enhance the review. Book reviews should be limited to 750 words, or less.*

*We look forward to your addition to the STRUCTURE Book Case...*