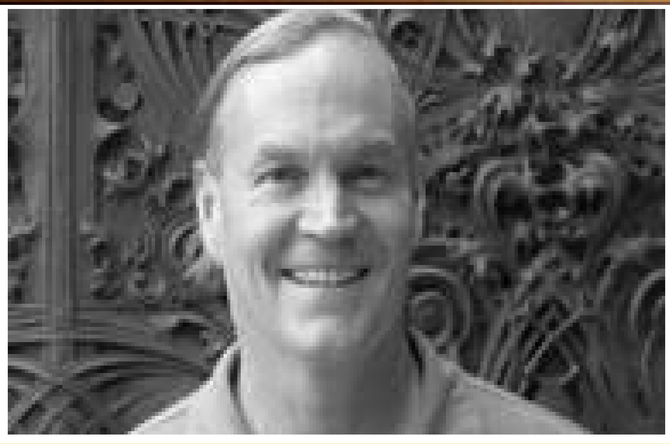
PAST LEADERS OF THE FUTURE: NC State's Contribution to Design and Technologi Innovation

(1917 - 2010)

EDUARDO CATALANO

MATHEMATICS, TECHNOLOGY & THE VISUAL ARTS

Eduardo Catalano was successful in joining architectural function to the forms he developed through mathematics, he sought harmony in science, technology, and the visual arts. Catalano was an Argentinian born Architect. He came to the United States and studied at the University of Pennsylvania as well as Harvard University. He was a student of Marcel Breuer for his undergraduate degree and a student of Walter Gropius for his graduate degree. Catalano went on to teach at the Architectural Association in London until 1951, then recruited by Henry Kamphoefner to be a Professor of Architecture for North Carolina State University School of Design from 1951 to 1956. During his time there, he built his now famous Batwing house. In the construction of his house, rather than focusing on the aesthetic aspects he decided to emphasize the mathematical calculations of making the roof. Later on, he went on to teach at the Massachusetts Institute of Technology (MIT) from 1956 to 1977, while at MIT he built the Stratton Student Center that is still used today. In 2002, Catalano came out retirement to design his last piece the "Floralis Generica" which was a gigantic metal flower, eight years later at the age of 92 he passed away.



"The innovative and poetic shapes of Eduardo Catalano's architecture would not be possible without an expert understanding of forces. Catalano was able to achieve this creativity and originality because he studied and understood fundamental principles of physics and calculus."

Bryan Bell, Professor
North Carolina State University, College of Design

A THEMATIC TIMELINE ON TECHNOLOGY CONNECTED TO CONTENT

1945 — Earned his master's degree in Architecture.

1948 — Henry Kamphoefner begins his deanship at NCSU school of design

1951 — Catalano was recruited by Kamphoefner to begin teaching at NCSU

1954 — Raleigh Home finished

1956 — Catalano began teaching at the Massachusetts Institute of Technology

1963 — Catalano built Stratton Student Center at Massachusetts Institute of Technology

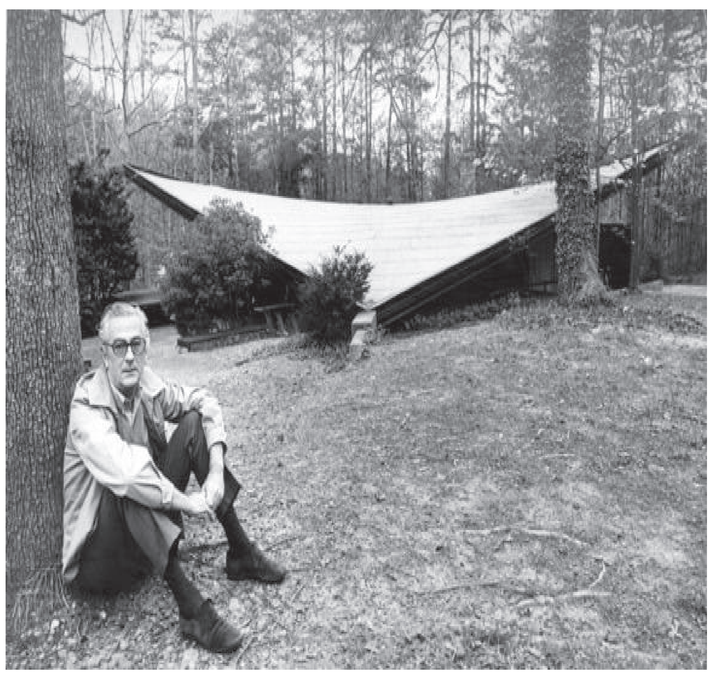
1977 — Catalano left Massachusetts Institute of Technology

2002 — Catalano came out of retirement.

2002 — Catalano created his last project "Floralis Generica"

A MATHEMATICAL APPROACH TO DESIGN

Overall Catalano has been a major contributor to the Modernist design movement and to technical innovation in the field as a whole. As far as the validity of modernist design goes, Catalano was essential in proving that Modernist design was not just beautiful to look at but also performed a function. This is evident throughout his design career and is present in many of his designs. With that being said, his greatest technical feat and an inspiration for how one can develop and integrate technological advancements in design, is none other than his Raleigh Home. Often called the Batwing House, this architectural piece was so beloved and was even considered the "House of The Decade" by House and Home Magazine. The main reasoning behind this was the advent of the roof. The roof was a geometric form known as a hyperbolic paraboloid. Known for his passion for math, Catalano set out to create a roof that he called, a double curvature. The thought behind the double curvature was two fold. On one hand he believed it to be a mathematical challenge and saw the beauty of what he could create. On the other hand, it made it possible to have a thin roof (approximately 2 ¾ inches thick) with great structural integrity. He agreed with Kelly in that technology was highly affected by mathematics. More specifically, "ideas could now be indexed, retrieved, and propagated more easily" with math (Kelly 47). Catalano was so enamoured with math for this very reason. Math made everything simpler to understand in his mind. In creating this roof, Catalano proved that mathematical calibration was essential in the design process and that it could be used to continually develop and achieve technical innovations within society. This roof is one of the first of its kind and has a deep impact on the way we view architecture today. Catalano proved through his mathematical and design prowess that uncommon forms could both be implemented and designated just as easily as a common form could. With the innovation he also proved it could be economically viable and even cheaper in some instances.



Catalano sitting in front of the Batwing House

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