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Santiago Calatrava

Santiago Calatrava, an architect, engineer, and artist, was born in Benimamet, Spain, on July 28, 1951. Calatrava launched the firm Calatrava Valls S.A. in Zurich in 1981. Today it is a global firm with offices in New York City, Paris, Valencia, Dubai, and Zürich. Calatrava graduated from the Polytechnic University of Valencia, Spain, in 1974 where he studied architecture. He then began a course in structural engineering at the Swiss Federal Institute of Technology in Zürich, receiving a Ph.D. in technical science in 1979. Calatrava established his own architecture and engineering firm in Zürich in 1981, later opening firms in Paris, Valencia, and New York (Britannica, *Santiago Calatrava*). In his buildings and bridges, he combines advanced engineering solutions with remarkable visual statements thus leading to his talented reputation. Calatrava's inspiring architecture is tied to his talent to incorporate both engineering and concern for appreciation of attractiveness into astonishing iconic structures. He believes that the practice of architecture gathers all fields of art and brings them together in one creation. Calatrava has said, "I have tried to get close to the frontier between architecture and sculpture and to understand architecture as an art," this idea is the reason, along with his architectural projects, he did not lose hold of his skills in painting and sculpting. He believes that architects can communicate with people through buildings, rather defined as sculptures. I agree with Calatrava's idea of architecture being an art while resembling

certain aspects of sculpture. Contrary to painting and sculpture, architecture goes a step further because it is more than using materials, it instead responds to functional outputs and environmental factors. For Calatrava, the significance of bringing art into architecture creates a valuable sense of harmony.

When Calatrava visited the Cathédrale Notre Dame, he was in awe of the power of architecture that subconsciously influences people's emotions, lifestyles, and interactions with one another. This moment as an exchange student in Paris is what led to his sparked interest and prominent career in architecture. He is fascinated and inspired by the complexities of nature and zoomorphic forms, such as waves, shapes, rhythms, and wings are seen in his post-modern structures. This style of post-modern architecture is characterized by the equal importance of the appearance of the building as much as its functionality. He is also influenced by the work of an engineer, Robert Maillart, as they share a similar visual appearance that has placed them among the most innovative bridge builders. While both have the same concept of simple forms that capture the concept of movement, Maillart's projects are very cost efficient contrasting Calatrava's expensive and over-budget structures. The differences in the environment, cost, and materials are what set these structural engineers apart. Calatrava is known for rejecting the idea of "form follows function," as seen in many of his buildings. The World Trade Center Transportation Hub, Reggio Mediopadana, and Palau de les Arts are a few of the most significant buildings that noticeably convey this concept. They each incorporate biomorphic appearances that are theatrical and seek to admire the viewers with their complex engineering and post-modern design. Calatrava stated that "architecture cannot achieve greatness without projecting an emotional effect," and I

couldn't agree more. I admire his approach to architecture, as it starts with sculpture as exercises in structure, many of which he goes on to develop into architectural icons. Calatrava's idea to focus more on aesthetic aspects rather than structural ones is very interesting considering he is also an engineer, but this concept encourages me, and my design process.

Calatrava has impacted and influenced the architectural community by representing symbolic meanings in buildings, focusing on the aesthetic impact rather than the structural. For example, the Oculus was designed after a winged dove, a symbol that represents peace and is most fitting to the tragedy that took place there on September 11th, 2001 (*ArchDaily*, 2012). He has also influenced architecture from his design method called 'biomimicry', which is the reproduction of natural biological designs incorporated into engineering and architectural processes.

Although considered a household name in the US and his place as a world-renowned architect who has defined the modern urban experience, Calatrava is not entirely loved by everyone. His projects have faced backlash and disapproval. His buildings have been criticized for being commonly way over budget and referred to as excessive eyesores. The Palau De Les Arts in Valencia was extremely over budget and has many design flaws. Calatrava faced legal action over a leaky roof at the Ysios winery in Spain and ceiling leaks at the World Trade Center Transportation Hub in New York in 2015, and again in 2017 (*Dezeen*, 2022). Or the Chicago Spire, a concept envisioned in 2005 as a hotel and condominium tower, topped with a twisted spire that resembled a tall twisting tree and blade of grass. The tower would have been the tallest building in the Western Hemisphere at 2,000 feet and 150 floors (*Chicago Sun-Times*,

2007). Though, due to the global financial crisis in 2008, the grand project came to a halt and now currently sits a 78-foot-deep and 75-foot-wide hole where the core of the building would have been. A crisis and lawsuits trailed, and then in 2014 the nine-year-old project was formally ended when Kelleher handed it over to Related Midwest despite attempts to keep the dream alive (*Media et al.*, 2021). Over the years, the Chicago Spire hole has been labeled a civic embarrassment and has been the source of jokes for development. Calatrava is extraordinarily innovative, but his work has faults, whether over budget, construction errors, or pushes the boundaries of architecture too far. As a sculptor, painter, or architect, you will have people who will criticize your work, but that is never a bad thing. It doesn't take away from the architect's recognizable brilliance. Some of the community reject Calatrava's ideas, while others proclaim him to be a creative and misunderstood artist. He once said, "There is so much vulgarity in the every day, that when somebody has the pretension to do something extraordinary for the community, then you have to suffer." I believe that there is no true creativity without criticism.

Overall Calatrava's philosophy, design process, and structures truly inspire me. He has defined the modern urban experience and brought a whole new meaning to architecture and its impact on society. Calatrava is of international praise, so it is no wonder he was awarded a Gold Medal from the American Institute of Architects (AIA) for his influence on the theory and practice of architecture (*The American Institute of Architects*, 2004). He believes creating art is crucial to the evolution of his architecture, which I agree with and relate to, as working with art and sculpture my whole life. Incorporating his artistic approach creates a valuable sense of harmony seen in his

architecture. He expresses the energy of the human spirit and captivates his imagination in a distinctive way. Santiago Calatrava's architecture responds to functional outputs and environmental factors, pleasing us with the wonders of what sculptural form can achieve.

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