

Celebrating the 100th Anniversary of the Benjamin Franklin Bridge

Who Was Ralph Modjeski ?

Ralph Modjeski (Rudolf Modrzejewski 1861-1940), was the son of actress Helena Modrzejewska, a star of the theater in Poland. In 1876 she, with a group of artists and intellectuals from Poland that included Nobel Prize winning writer Henryk Sienkiewicz, moved to Anaheim, California, to start an "art commune." Things did not go smoothly as her companions were not used to farm work. When the money ran out she tried out for the stage in San Francisco and thanks to her persistence, her inborn talent, and a little help from Civil War hero Gen. Włodzimierz Krzyżanowski, became a great success in the US and internationally. Mother and son adopted the last name of Modjeski on becoming naturalized as American citizens.

Ralph, who was also a superb pianist, became one of America's great bridge builders, educated at the famous Ecole des Ponts et Chaussees civil engineering school in Paris. When he applied in 1880 there were only 25 places for incoming students. He placed 27th on the entrance exam. After a year of intense study he made the grade and in 1885 graduated at the head of his class. He then interned with George Morison, one of America's pioneering bridge engineers. Later, he started the firm of Modjeski and Masters going on to build some of the great bridges in the United States.

In the Philadelphia area he built the *Benjamin Franklin Bridge*, the *Tacony-Palmyra Bridge*, and two bridges on Henry Avenue. His other major projects included the *Thebes Bridge* at Thebes, Illinois; the *San Francisco-Oakland Bay Bridge*, and the *Huey P. Long Bridge* in New Orleans. During a long career he introduced many advances in the design of long steel truss and suspension bridges, and was one of the first engineers in the United States to build large structures of reinforced concrete.

He received many awards for his work including the Franklin Institute *Franklin Medal* (1922), the *John Fritz Medal* (1930) and the *Washington Award* (1931) given for his contribution to transportation

through superior skill and courage in bridge construction and design. The firm he founded continues to design and build bridges, maintaining the legacy he established.

The Hundred Year Bridge

As the year 1920 approached the city administrators of Philadelphia, Pennsylvania, and Camden, New Jersey, separated by the Delaware River, were having a major problem. The amount of commerce between the two states was outstripping the ability of ferry services to handle the flow. A bridge was needed, but to join the downtowns of the two cities a bridge of extraordinary, unprecedented dimensions would be needed. It was recognized that this bridge would have an enormous impact on the social, economic and cultural development of the area.

The governors of the states of Pennsylvania and New Jersey created a Bridge Commission which eventually selected Ralph Modjeski as chief engineer for this immense project. He was already acclaimed as the builder of many steel truss and cantilever bridges across the United States. In 1902 he verified the calculations for Manhattan Bridge, a suspension bridge over the East River in New York City. The new bridge he proposed to join Philadelphia and Camden would be of the suspension type. In many ways he was pushing the very boundaries of what was then possible in civil engineering of large structures.

Modjeski assembled an engineering team that included two of the outstanding bridge engineers at the time: George Webster and Laurence Ball. Assisting them were Clement E. Chase, Leon S. Moissef and Montgomery B. Case. The design that was eventually accepted followed the maxim of: form follows function. Responsibility for decorative detail was given to Paul Phillipe Cret, a respected Philadelphia architect.

While the bridge followed a strict "form follows function" formula, architect Paul P. Cret designed marvelous towers on a monumental scale with an Egyptian theme, faced with granite, standing over the cable anchorages on both sides of the river. These, though mostly superfluous, create a feeling of grandeur as one drives onto the bridge deck.

Work started in 1921 with the sinking of underwater caissons so that foundation for the two tall supporting steel towers could be laid. Modjeski moved to Philadelphia and established his headquarters at

the Weidner Building opposite of City Hall. He would be at the work site practically everyday inspecting the construction. As the steel towers rose above the waters of the Delaware River criticisms could already be heard. Some thought that having eight lanes of traffic (currently reduced to seven) was extravagant. The artist Joseph Pennell, who sketched the bridge during construction, called it "the ugliest bridge in the world." The phenomenal cost of this investment, 37 million dollars, was also under severe scrutiny.

Construction moved ahead nevertheless. Modjeski and his engineers solved all the technical problems that arose along the way. He also contributed to resolving the difficulties associated with financing the bridge and finding an equitable formula as to how tolls would be charged and shared. The crossing toll was eventually set at 25 cents, one way. Today's two-way charge of \$6.00 translates to approximately 32 cents in 1920s dollars.

Work on the bridge lasted for 4 years and it was finished on schedule to open on July 1, 1926 during the national Sesquicentennial of the United States. Four years later, tracks for a rapid transit system operated by Port Authority Transit Corporation (PATCO), connecting Philadelphia, Pennsylvania, with Lindenwold in Camden County NJ were added to the bridge, as was originally planned.

At that time this was the longest suspension span (1,750 feet or 530 meters between towers) in the world. Present for the dedication were governors of the States of New Jersey (A. Harry Moore), Pennsylvania (Gifford Pinchot), and United States President Calvin Coolidge. Since then the bridge, originally called the Philadelphia - Camden Bridge, has become a beloved and instantly recognizable local landmark. The criticisms of the past seem ill conceived today.

A Hundredth Birthday

To celebrate the 100th anniversary of the bridge the Delaware River Port Authority (DRPA) decided to hold a major celebration. On July 11, from 10:30 am to 2:30 pm the bridge was closed to automobile traffic and opened for pedestrians. A speakers' platform was set up on the New Jersey side, in front of the DRPA administrative building. John T. Hanson, Chief Executive Officer (CEO) of DRPA opened the ceremonies. He was followed by Philadelphia Mayor Cherelle Parker and Camden Mayor Vic Carstarphé who performed a ceremonial handshake onstage - a symbolic joining the two cities across the

Delaware River. Each reflected on the bridge's economic and social importance to their cities on either side of the state line. Mayor Parker had the crowd chanting "One bridge, one region, two cities, united in America!"

Michael Britt, President and CEO of the the civil engineering firm of Modjeski and Masters stated that the "ingenuity and foresight" of Ralph Modjeski and his team had a lasting impact. "The Ben Franklin Bridge was designed with a balanced approach to strength, redundancy, adaptability and, of course, aesthetics," Britt said. "It has become an iconic bridge of this area of this region ... Today's transportation demands bear little resemblance to those of a century ago, yet the bridge continues to safely serve modern transportation demands."

In the audience were members of various Polish-American organizations, including: the Council of Polish Engineers in North America (Rada Polskich Inżynierów w Ameryce Północnej), the Polish American Congress, Polish Heritage Society of Philadelphia and others. They carried Polish and American flags. One enthusiast brought a poster that portrayed Modjeski and his activities in bridge building.

At noon Polish Heritage Society members crossed the bridge back into Philadelphia and held a wreath laying ceremony at the large bronze commemorative tablets located in the plaza at the western entrance to the bridge. Among those present were: President of Polish Heritage Society Jewls Teneva Rogowska, Honorary Consul of the Republic of Poland Deborah Majka, members of the society and a large number of bystanders. A wreath of white and red flowers with the sign "Polish Embassy Honors Ralph Modjeski" was placed near to where Modjeski's name appears as Chief Engineer on the tablet.

The ceremony was filmed for television broadcast by Matteo Iadonisi from WPVI TV Channel 6. Some of the footage later appeared on the air at 6:00 pm during ABC TV's national news broadcast.

Afterward a number of members from the Polish-American organizations proceeded to the Ethical Society on Rittenhouse Square for a reception and symposium. A delicious buffet was served. This event was organized by the Council of Polish Engineers in North America with Monika Sampanis and Alexandra Radlińska who chaired of the organizing committee.

Andrzej Nowak, president of the Council of Polish Engineers in North America greeted the guests. Mirosław Niedziński, acting as master of ceremonies, opened the session with mention of Dr. Janusz Romański, who passed away just a week earlier. Dr. Romanski had been a past president of Polonia Technica, a society of Polish Engineers in New York, and was a dedicated Polonia activist. He was to receive the Distinguished Service Award at the Convention of the American Council for Polish Culture (ACPC) Convention in Philadelphia on August 15. A moment of silence was observed in his memory.

A number of guests spoke about various aspects and significance of the Benjamin Franklin Bridge and Ralph Modjeski's influence on bridge engineering in the United States and the world.

Among the speakers were:

- Andrzej Nowak - President of the Council of Polish Engineers in North America
- Jan Płachta - a civil engineer and author of the book "Artist in Concrete and Steel: Bridges of Ralph Modjeski"
- Michael Britt (president), Tom Murphy (vice president), Sylwia Stawska (engineer) - representing the engineering firm of Modjeski and Masters
- Krzysztof Józwiak Rector of Łódź Technical University
- Adam Woźniak - Vice Rector Warsaw Technical University
- Wojciech Franus Vice Rector Lublin Technical University
- Maria Kaszyńska - President of the Polish Society of Civil Engineers
- Vijay Kumar - Dean of Engineering at University of Pennsylvania
- Farshad Rajabipour - CEE Dept. Head at Pennsylvania State University

Ralph Modjeski Pattison, President Emeritus at Pattison Engineering and great grandson of Ralph Modjeski, traveled from Tucson, Arizona to take part in the event. He brought a very elegant plaster bust of Ralph Modjeski and presented it to Michael Britt. The bust was created by Felicia Benda, Ralph Modjeski's first wife, who was a skilled sculptress. It will now be on display at the Modjeski and Masters corporate headquarters in Mechanicsburg near Harrisburg, PA.

Dr. Mark Maughmer of Penn State University spoke about the significance of Kościuszko and Pułaski in the American Revolution.

The reception concluded on a friendly note with participants engaging in exchanging views on Ralph Modjeski's work. A number of

engineering students from Philadelphia universities took part in the event including those from the University of Pennsylvania and Drexel.

Everyone came away with an new understanding and an appreciation of the bridge built one-hundred years ago and the man, Ralph Modjeski, who in the 1920s was a master of technology and project management, a technical celebrity, quite comparable to Elon Musk, Steve Jobs or Bill Gates today.

More information about the Bridge Event, with photographs, may be viewed on the web site of the Polish Heritage Society of Philadelphia: <https://www.poles.org/PHSP>

On that same pages may be found information about the Society's recent accomplishments, and plans for the ACPC Convention which will take place August 12-15, 2026.