

The Forth Bridge: Picturing a marvel in steel that spans water, time and cultures

Howard Bossen, PhD
Michigan State University

The Forth Bridge, begun in 1883 and opened in 1890 is still transporting people and materials across the Firth of Forth. It became the UK's sixth UNESCO World Heritage site in 2015 and was the first bridge in Britain constructed entirely with steel. While after the invention of the Bessemer process in 1855 steel began to replace iron first for rails and then bridges, it was the imaginative use of steel by the chief designer Benjamin Baker and consulting engineer John Fowler that helped to revolutionize bridge building.

A massive engineering project, it attracted workers and engineers from many countries including Kaichi Watanabi from Japan who had come to the University of Glasgow to study engineering. Watanabi worked on the bridge as a construction foreman and is featured in an 1887 photograph, flanked by Fowler and Baker that demonstrated the principle of cantilever design. Watanabi's correspondence with Fredrick Cooper, one of the resident engineers, illustrates how the bridge captivated his imagination and his gratitude for the opportunity to work on it.

The Forth Bridge also attracted photographers whose vision was worthy of its architectural and engineering splendor. Three photographers whose work is extraordinary are Evelyn Carey, an assistant engineer who documented the building of the bridge, E.O. Hoppé, a German born British photographer who included photographs of the Forth Bridge in his extensive mid-1920s study of the United Kingdom and American photographer Robert Richfield who created large format color panoramic views of the bridge in 2005 and 2015.

Through Watanabi's correspondence and photographs by Carey, Hoppé and Richfield the Forth Bridge is explored as an engineering marvel in steel that spans water, time and cultures from its late 19th century beginning through the arrival of its new bridge neighbor, the Queensferry Crossing in the 21st.