SUSPENSION BRIDGES IN URBAN CONTEXT – PARIS v KRAKOW (DESIGN COMPETITIONS)

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Summary

The 2007 Henderson Colloquium of the UK IABSE Branch held at the University of Cambridge was devoted to learning lessons from successful and failed bridge design competitions. Its aim was to generate guidelines for promoters of bridge design competitions on how and by whom competitions should be organised, and how they should be handled and judged. This paper, by a contributor to the 2007 Henderson Colloquium and based on first hand experience, juxtaposes two bridges entered in two invited competitions and compares how these two competitions were run. Both involved an urban context and both designs used suspension system in order to achieve lightness and minimal visual profile. Both were technically innovative, limited the presence of structural elements to a minimum, and offered maximum openness of unobstructed views from their decks. Both had a set agenda of avoiding 'structural gymnastics'. Development of the form and typology of these two bridges, which responded to their setting, both by way of exploring the opportunities and respecting the constraints, is also analysed in this paper.

(This paper should be considered in conjunction with Keith Brownlie's paper 'Lessons from Design Competitions, Henderson Colloquium 2007'.)

Keywords: Footbridge, concept development, solutions, logic, structural efficiency, architect, bridge engineer, design competition, judging, competence

1. Introduction

There is nothing particularly new, nor specifically of our times, as far as design competitions that involve structures, and design competition controversies, go. Antonio da Ponte won the Rialto Bridge competition in Venice, and while it was completed to his design in 1591, it was not without a major bout of structural doubt in 1588. In Victorian England some 2500 competitions were held during a period of fifty years, of which 362 were held in London alone. According to a two-volume '*Architectural Competitions 1792-1949/1950-Today'* published by Taschen:

'Initially, local dignitaries sponsored these events in order to inexpensively obtain plans, which they then had executed by a local contractor who finished the job according to the wishes of the organizing body. It was also quite common for inexperienced juries to be swayed by pretty, water coloured pictures, instead of basing their assessment on the architectural merits of a design'.

Among the historic bridge competition controversies was the London Bridge, opened in 1831 and later re-erected in Lake Havasu City, Arizona, which was built to designs by John Rennie that preceded a competition. This competition attracted 30 entrants who clearly wasted their time and money.

In 1839 the Institute of British Architects (IBA) drafted what appears to be the first competition rules, although these were not formally sanctioned. It was in 1872 that the Royal Institute of British Architects issued the first formal competition regulations.

Designs for footbridges are now routinely sourced using the design competition route. In this paper the process and its results are compared for two concluded pedestrian bridge competitions, one held in Paris, France and one in Krakow, Poland. Suspension bridges offer the most efficient and energy saving use of materials because they utilise their tensile rather than compressive properties. The best suspension bridges, especially footbridges, are characterised by minimal visual presence and great transparency. Considering that despite this the suspension bridge system seems to be going