

## THE 'CHAINED' BRIDGE (ATTRACTIVE STRUCTURES AT REASONABLE COST ?)

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### Summary

Drawing from 18 years of bridge design experience, ten bridge design competition victories and some 50 bridge designs, I would like to reflect on some of the thoughts and worries that have been influencing my design work. Traditionally bridges, and this includes footbridges, were among structures that used materials most efficiently, and they all, with very few known and notable exceptions, stood up and worked. Their designers may not have had artistic talents and/or so declared ambitions but they knew what made sense. Some of these bridges are now considered artefacts of outstanding beauty and are listed among the key achievements of our material heritage. Fin de Siecle of the 20<sup>th</sup> Century and the first 10 years of the 21<sup>st</sup> Century saw a proliferation of eye catching but inefficient structures delivered to satisfy egotistic agendas of clients and their designers. It is difficult to escape the feeling that technological and computational advancements were abused, and rational design sacrificed on the altar of short lived media gratification. Competitions, while essential to the progress and to exchange of ideas, also stand accused of promoting frivolous, illogical solutions for the sake of visual curiosity and misconceived media-worthiness. One day we may finally see a client suing a competition jury for selecting a design that is inadequate and/or not affordable. From the recently built, or yet to be built, bridges I have selected a small sample of designs that in my view can be seen as good examples, and also some that I do not feel positive about. I hope to stimulate a discussion, and to this end I am including also the openable Copenhagen Inderhavnen Bridge, designed by Studio Bednarski and Flint & Neill, with Hardesty-Hanover, and Speirs and Major.

**Keywords:** design; chains; art; structure; responsibility; moral duty; ethics; logic; sense; adequacy; purpose; efficiency; competitions; judges; clients; new paradigm; restraint.

### 1. Introduction

While the progress of our civilisation depends on the existing boundaries and limitations being pushed ever further forward, in all fields of human activity, some boundaries and limitations have to remain. Two of these are COMMON SENSE and NO WASTE.

The musician Nadia Boulanger said - "*Great art likes chains. The greatest artists have created art within bounds. Or else they have created their own chains.*" If we treat design as art, and in the context of this particular conference – pedestrian bridge design, should we not be creating our own 'chains' when they are not provided for us by others ?

If so – what kind of 'chains' result in the best bridge designs?

As designers we owe a duty of care to our clients, to the society at large, to the generations that were here before us and the heritage that they left to us, and to future generations that will have to live with the designs that we create and leave behind. I believe that the now so fashionable 'environmental sustainability' is also well covered under these headings. This duty of care may seem like a worn out truism but how frequently we see it neglected.

The Irish born British novelist C.S. Lewis, the author of *The Chronicles of Narnia*, said – "*The book cannot be what the writer is not*". Could this thought be extended to the field of design and if so should not designers be continually examining their personal motives ?