

THIS IS NOT (ONLY) A BRIDGE “CECI N’EST PAS (JUSTE) UN PONT”

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SUMMARY

Infrastructures of all kinds are recently becoming more important components of our built environment. As part of a much larger research, professional and academic framework, named LOCUS (Laboratory of Context-based, User-experience Spaces), Prof. Dr. Pedro Pablo Arroyo Alba presents through some of his projects, mainly developed in Shanghai, China, how bridge design, beyond solving a problem of physical connectivity, offers the opportunity to provide for public spaces of destination where visitors prefer to stay and enjoy the surroundings, via the integration of engineering, architecture and landscape. Art, culture and history are very rich sources of inspiration during the process of adapting a generic structural system to a specific site.

Keywords: *Bridge Engineering, Contextual Design, Art, Culture, History.*

1. INTRODUCTION

The title of the paper refers to the famous surrealist painting “Ceci n’est pas une pipe” [1], by René Magritte. The intention behind “Ceci nest pas (juste) un pont” is to redefine the meaning of “bridge”, normally associated to engineering devices that merely solve problems of physical connection. Instead, while generating new grounds, bridge design has the potential to produce spaces of landscape value and architectural quality that visitors could inhabit, if only temporary. Although the structural system, its proportions and dimensions, will be always the most important technical factor, other parameters would play an important role, from the macro-scale to the micro-scale. By addressing issues of urban planning, surroundings buildings, public spaces, form, materials, textures, colors, construction details, natural and artificial lighting, handrails, pavement, visual relations, etc., engineering will merge naturally with architectural and landscape disciplines. The design methodology described in this text is part of my research, professional and teaching integrated activities, that I call LOCUS: Laboratory of Context-based, User-experience Spaces. It is concerned with the processes of adaptation of a generic structural system into an individual site. First, it is necessary to analyze the *constraints* that affect directly the place where the project is needed. As conclusion of this study, a structural type is recommended. Second, an *idea*, a creative catalytic force, must be selected to guide the third phase, that is, the specific *development* of the structural system, with the mediation of references. While the inner constraints are mainly physical and normative, and thus, common to any designer, the selection of outer references depends on our own interest to generate a project that is conceptually deep. The most fertile fields where to extract outer references from are art, culture and history. In terms of the idea, it is very important to acknowledge 3 principles. There is never a univocal response to the conditions of a site, and different designers may reach equally relevant solutions. The idea should never be a fixed formal template to be copied but always interpreted. The proposal must unite technology and beauty. It means that structure, construction and expression must be integrated and mutually interdependent, excluding any decorative additions.

Most of the case studies that follow this introduction were done in China, where my first bridge was built. All the projects, built or unbuilt, have been published in indexed magazines, have received international awards, or have been exhibited in events organized by recognized institutions. I have explained the most important design decisions that characterized each development, with more detail in case of built projects. within the title