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THE BOOK »FOOTBRIDGES – SMALL IS BEAUTIFUL«

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Summary

The book titled "Footbridges – small is beautiful" issued by ECCE includes a presentation of more than 200 footbridges built in Europe regardless of their date of construction and their size making the book more interesting. And especially the old footbridges built some centuries are telling us interesting stories. What are the stories of the famous footbridges like The Old Bridge in Mostar, The Rialto Bridge in Venice and The Hradskega Bridge in Ljubljana? We still can learn from them and take their messages in account while designing a modern footbridge. Let us learn from the past while thinking for tomorrow.

Keywords: ECCE; book on footbridges; historical footbridges; European footbridges; modern footbridges; Old Bridge in Mostar; Rialto Bridge; Hradskega Bridge in Ljubljana; aesthetics; footbridge architecture

1. Introduction

It is not the primary task of this text to make a full presentation of the book on footbridges issued by the European Council of Civil Engineers. Among 200 footbridges presented in this book which includes also over 630 photographs in high resolution it is very difficult to choose 10 most interesting footbridges regardless the time of their construction. So we have chosen to tell three different stories of three different footbridges built some centuries ago. As this footbridges are still standing and in full function they have rich stories while the modern footbridges are still too young to tell such stories. All of these three footbridges have outstanding construction and architecture and they are still admired. Is one of these three footbridges The Rialto Bridge in Venice the most known footbridge in the world? Nobody knows exactly but majority would say so.

2. Three footbridges and their stories

Are the footbridges built some centuries ago transmitting some messages to us and to the modern civil engineering and architecture? Three outstanding footbridges were chosen in this article (among many interesting old footbridges in Europe) to be presented together with their interesting stories and destinies. These footbridges are:

2.1 The Old Bridge in Mostar (Stari most) in Bosnia and Herzegovina, built in 1566

This bridge is the only one of the three chosen footbridges that was destroyed in 1993 and later on rebuilt. For centuries it was the only bridge in Mostar to cross the river Neretva, span of the stone arch is 27.7 m. The legend says that the builder of the bridge Hayruddin moved before the demolition of the bridge supporting centering to the neighbouring village to wait the news there if the stone arch will stay on place after removing the centering. And the centering was successfully removed and nothing happened to the stone arch. It was still there. The people were so happy and delighted and they started to celebrate with a lot of food and drinks— so they forgot to send a messenger to Hayruddin to tell him that the centering was

successfully removed. Being said that no news reached him he moved soon to Istanbul and he never came back. Was this an act of responsibility of the bridge builder for his work? A positive answer is very possible. How it is with such responsibility today? And were there any secrets important for the knowledge of the bridge construction history hidden inside the bridge structure and discovered by case only 4 centuries later? And was it a barbaric act to destroy such bridge during the war in Bosnia and Herzegovina?

2.2 The Rialto Bridge in Venice (Il Ponte Rialto), Italy, built in 1591

Beside the architectural shape of this footbridge which is still admired by many tourist coming in Venice this bridge is may be more interesting from the structural point of view. How the bridge builder Antonio da Ponte could master the horizontal forces created by a massive and very heavy stone arch in the soft ground that dominates on most of the surface of the city. We have to take in consideration the fact that the knowledge of flow of internal forces in arches and soil mechanics at the end of the 16th century were not on the level of what we know today. So the constructional feeling and empiric experiences of the bridge builder were prevailing on the rather poor knowledge of mechanics. For more than 4 centuries the bridge made no negative impact on stability of neighbouring houses and no cracks appeared in the arch or foundations of the bridge. And not to forget – a public competition was held for the design of the bridge. Yes, it was at the end of the 16th century! The Rialto Bridge is probably the most famous and most photographed footbridge in the world.

2.3 The Hradeckega Bridge in Ljubljana (Hradeckega most), Slovenia, built in 1867 and being the first hinged footbridge in the world

This cast-iron arch bridge has an extremely interesting history. When built The Hradecky Bridge was not only remarkable for its structure of hollow cast-iron tubes, it was the first footbridge in the world to use a hinged structure. In 1867 hinges still represented a revolutionary technical solution. In view of these facts, the Hradecky Bridge is at least from this point of view unique in the world and an early representative of an important stage in the development of engineering expertise in bridge-building. Given that the majority of iron bridges (for the most part railway bridges) in which hinges were first used have been demolished or removed, we may claim with considerable certainty that the Hradecky Bridge is today the oldest surviving hinged bridge in the world.

3. Some thoughts about footbridges

The three described footbridges are only some examples of many footbridges having interesting stories and histories. And we can still learn from them and nothing is prohibiting us to implement experiences from such cases to new footbridge constructions. Over the last two decades, the subject of the footbridge has assumed the characteristics of excellence on a worldwide level. Building a footbridge means connecting people with each other and to themselves. It means making the way for people to walk on air, as it were, to reach others in whom they perhaps see a little bit of themselves. It means creating peace, friendship and love. In a few words, seeing oneself once again as part of the great "human family". In this way, we are able to look beyond others' diversity, that we may simply not understand, overcoming an atavistic geophrophobia, which basically means fear of crossing a bridge, jumping over the fence into the unknown, in terms of "enantiodromia". Thus people will be able to identify themselves again in their own action of "subject", which is part of the "whole". A footbridge becomes a true point of accumulation able to attract for itself. So, not simply walking across it to get to the other side, but doing so for the pleasure of feeling part of it, making it one's own, almost "wearing it"! The relationship between subject and object tends to be reversed. The bridges that lives. The bridge that speaks. The bridge that attracts you. The bridge that makes you fall in love. Continuous emotions created by the interaction of symbol and metaphor in a metaphysical way of living that goes far beyond the simple action of crossing a bridge. New urban landscapes appear, perceived directly and indirectly. New cultural dimensions emerge and become visible to all. Mental attitudes evolve toward that which is positive. Beauty will educate the world! Such are the words of Pope Francis. So this kind of footbridge where the Vitruvian triad FIRMITAS UTILITAS AND VENUSTAS finds its synthesis with special emphasis on beauty, will be able to rebuild the world within us, in all of us, as oneness in creation. Many contractors have not yet understood this in all its depth and, with inexplicable cultural blindness, are not able to grasp the exceptional added worth, in social terms, of building something "beautiful" which means going far beyond building something useful and safe, especially in an urban environment!