

## The heritage Bridges of the *Gardesana Occidentale* Lake Garda, Italy

### Fulvio ZEZZA

Professor  
Università IUAV di Venezia  
Venice, Italy  
zezzaf@iuav.it

Fulvio Zezza is full professor of geology at the Università IUAV di Venezia Faculty of Architecture, Italy. He was the Director Build of Architecture Department at the same University.

### Anna Villanova

Architetto  
Università IUAV di Venezia  
Venezia, Italia  
annavillanova@gmail.com

Anna Villanova, received her degree at Università IUAV di Venezia in 2003. She received her P.h.D in Structural Engineering at the University of Trento in 2008. Now she has a research grant at the IUAV.

### Summary

Here we discuss the heritage bridges of the *Gardesana Occidentale*, a road built in 1929-31, and we analyse the different types of arch which have a span of between 2 and 20 metres.

We highlight the building processes for this infrastructure, which is unique in terms of its characteristics and environmental value.

Lastly we argue that abandoning many parts of the *Gardesana Occidentale* may lead to the degradation of the historical bridges and indeed of the whole road, which for years has represented a very good example of the relationship between road, territory and local economy.

**Keywords:** arch bridges – cultural heritage – historical infrastructure - landscape

### 1. The *Gardesana Occidentale* road.

The history of a road is the history of a place and its inhabitants.

The pre-alpine portion of the *Gardesana Occidentale*, the daring and spectacular “Meandro” that links Gargnano and Riva is a road-cum-park of great landscape and infrastructural value, but it is suffering from an identity crisis.

Its route is based on the rules of the early 1900s and today it has become a hybrid due to the addition of engineering works and sections redesigned and rebuilt in the last few decades. The appearance has changed and demonstrates the evolution of the road to the new and pressing needs of traffic. The result is a segmentation of engineering works which don't find their right and natural place in a unitary evolution of the road [1].

The *Gardesana Occidentale* was built in 1929-31 with a carriage of 7 metres, and a maximum inclination of 5%.

The road hugging the lake shore was inspired by sensitiveness and culture but also by economic needs. It exalts the lake shore and highlights the direct relationship between the lake and the territory. The design of the road was created by perceiving the contact of the road with the rock and with the water, and in general, with the Lake Garda drainage basin.

“(…) A road is not a kilometric entity: it is a plastic event within nature: geometry and nature are often the bases of emotional feelings (…) the route, the design of its edges, demand reflection and love just like any works of the spirit (…) [2] These words by Le Corbusier are well suited to the original route of the *Gardesana Occidentale*. Not only the design of a new road or new infrastructure, but also the interventions on an historical road might ask us to look for the direct relationships that link the road and the natural, human, and cultural environment. This shows that it is not possible to consider only technical and building factors when working on historical designs.