

POLITECNICO DI TORINO  
SECOND SCHOOL OF ARCHITECTURE  
Master of Science in Architecture (Environment and Land)  
***Honors theses***

**High mountain range architecture and rural landscape: proposal for a touristic-community facility and phyto-treatment plant, Paraloup, Stura Valley (Cuneo, Piedmont, Italy)**

by Enrico Marengo

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In the present debate on landscape protection, the theme of reclaiming neglected areas represents a basic step towards the re-launching and development of a local territory. To prevent the loss of splendid examples of spontaneous alpine architecture, the Nuto Revelli Foundation, in cooperation with the engineering faculty of Turin, has started the restoration of the village of Paraloup, Rittana (Cuneo) in the Stura Valley, which has remained unaltered as to its original layout.



My project regards accommodation facilities, including a small spa to boost sport and fitness tourism. The centre will be equipped with a phyto-treatment plant for refluent water to obtain a zero impact residential complex as to the cycle of water.

Before defining the architectural project for the restoration and enlargement of the settlement, I carried out a meticulous survey and classification of the recurrent structural elements, typical of the area in question, to lay the foundations for a kind of architecture which is consistent with the extant buildings and which provides the guidelines for the new project.

In other words, I looked for the proper definition of a good architectural project, which respects the extant buildings and is based on sound logical basis that justify the choices made.

The hypothesis of a project for the village of Paraloup includes two distinct parts: one for the restoration of a part of the surviving buildings for the reception of tourists, the other for the realization of a new fitness centre. Following professor Daniele Regis's advice for «a kind of work (...) capable of a subtle dialogue between memory and image, between new and old, present-day project and restoration work», (...) in my project I completed the volumes of the buildings destroyed by time according to their hypothetical original shapes and I designed a low impact project for the spa.



It is a semi-hypogeal building with the same layout as the other buildings of the village, which combines, in a simple way, three blocks as in the spontaneous alpine architecture. The simple clear lines of the new building are made to match the old ones, highlighting the distance between the old and the new, but at the same time starting a dialogue between them.



To complete the accommodation facilities, my project includes a phyto-treatment biotechnological plant, with horizontal sub-surface underground flow (E. Marengo and G. Giovannetti, inventors, italian patent n. TO2010A000198, registered on 16-03-2010 and international patent n. PCT/IB2011/051083, registered on 15-03-2011, under the title “Biotechnological phyto-treatment system”).

This kind of plant is different from other phyto-treatment systems regarding the filling medium, made of a mix of clay, volcanic rocks of pyroclastic and/or calcareous origin, sepiolite, fossil flour of diatoms with specialized bacteria and/or fungi regularly injected in the filter bed.

Even though the systems takes limited space, it is more efficient than traditional plants and is particularly suitable for cluster developments, as it completes the water cycle discharging the refluent in superficial water or directly in the soil, thus avoiding expensive canalization works and connection to public sewage system.

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