

POLITECNICO DI TORINO
SECOND SCHOOL OF ARCHITECTURE
Master of Science in Architecture
Honors theses

Ecohouse in Balme

by Barbara Chirico

Tutor: Maurizio Lucat

Co-tutors: Guido Drocco and Marc Zigante

Given thing of this work is the belief that ecocompatibility shouldn't be considered as one of the many architectural stiles present today, but should be thought as one of the architect's responsibilities, so that we could really talk about "man sized" architecture of the XXI century.

The reflection bases itself on one of the most discussed architectural themes of the past century: the *house*, house "for everybody", "man sized" house. The first hypothesis is that today man sized house should be economically ecocompatible: ecocompatible to preserve the healthfulness of the environment in which the man lives and creates his life; economically (also from A microeconomics point of view) ecocompatible so that it might result reasonable and interesting for everyone.

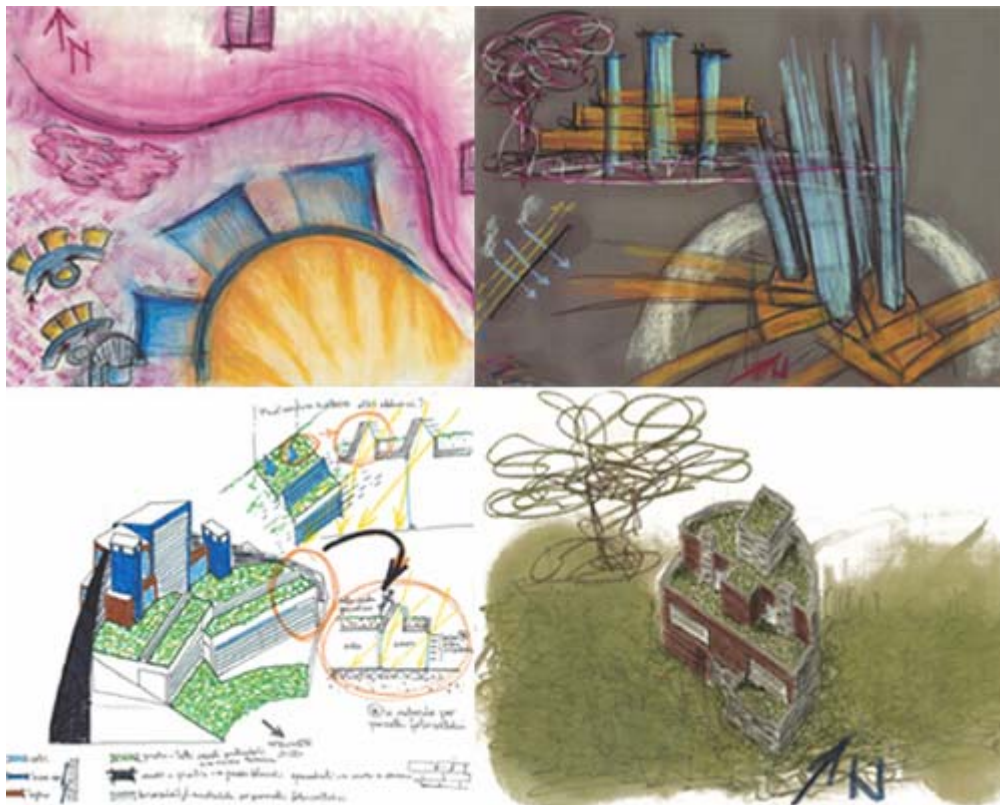


From "man sized" house till "eco-compatible man sized" house

Considering the spontaneous architecture as the best example of economically eco-compatible architecture everywhere, the research and the studies of the laws that for many centuries have regulated the construction of a certain place, become a main reference in the development of the proposal.

The project was born, and grew up in Balme, a small town in the Mountains situated in Lanzo's Valleys, near Turin. A place not considered by tourists, but a place which has nearly a millenium of history and spontaneous architectural buildings known for their own technological characteristics.

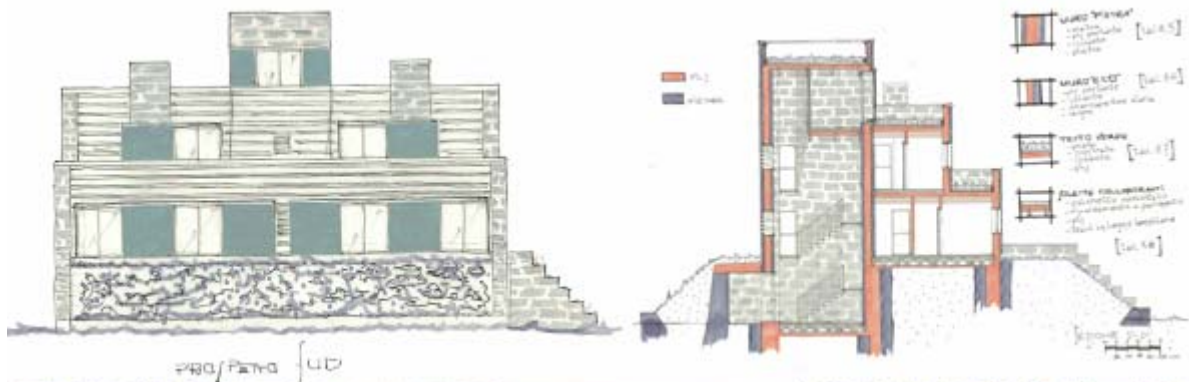
The projectual thought, compares itself with two different spaces at the same time. One is the mental space given from the marriage within past and new materials along with technologies, and thoughts about spontaneous architectural laws and with the target of economic eco-compatibility. The other one, is the physical space (the surrounding environment) represented by a difficult site to access, due sun-exposition and ground shape.



Drawings

The final design shows references and quotes in the art of alpine building in its technological characteristics, in its look and details, moreover in the atmosphere which is created inside this alpine ecohouse. The house is cosy, warm and characterized by new and past technologies and details which bond together to create a pleasant and comfortable place.

The interior distribution turns around the cold core of the stairs' "stone". So every single room turns round the fireplace's "stone". The whole thing is solid, closed to the north (from east to west) by a curved "stone" wall, and it is opened to the south by the aired "eco" wall, that with its external wooden skin, its glass windows closed by photovoltaic antas and its glassed loggias situated between life spaces and the actual wall, interacts with the environment (specially with the sun). The flat stampl roofs facing south (green roofs), bring to an extreme point the typical, not very steep saddle roofs, maintaining the original function: allowing the snow to deposit, so that it works like a perfect and absolutely natural thermo-insulating layer. Furthermore, the green flat roof allows to exploit some of the spaces (just the roofs), normally not accessible and useless. Common element of the ecohouse' structure is the PLS hearth. PLS is recognized as the most suitable element for project and design requirements; so much to make it the load-bearing ecohouse' material as real as metaphorical.



Final design: view from the south, section and Ecohouse in its environment – view from south-east

PLS is a totally ecological material obtained by a wooden mineralization process. It's created from scraps, and is later mixed with concrete and water (without radon emission). It's a very good thermo and acoustic insulator highly fire resistant. It's cheap, light and recyclable.

Recyclable as every other ecohouse' element, which could be used again in case of building dismantlement.

For further information, e-mail:

Barbara Chirico: b.chirico@alice.it