POLYTECHNIC OF TORINO
FACULTY OF ARCHITECTURE
Degree in Architecture
Honors theses

The Brianco - a territory of the southern Biellese. Hypotesis of territorial planning with ecological arrangment purpose

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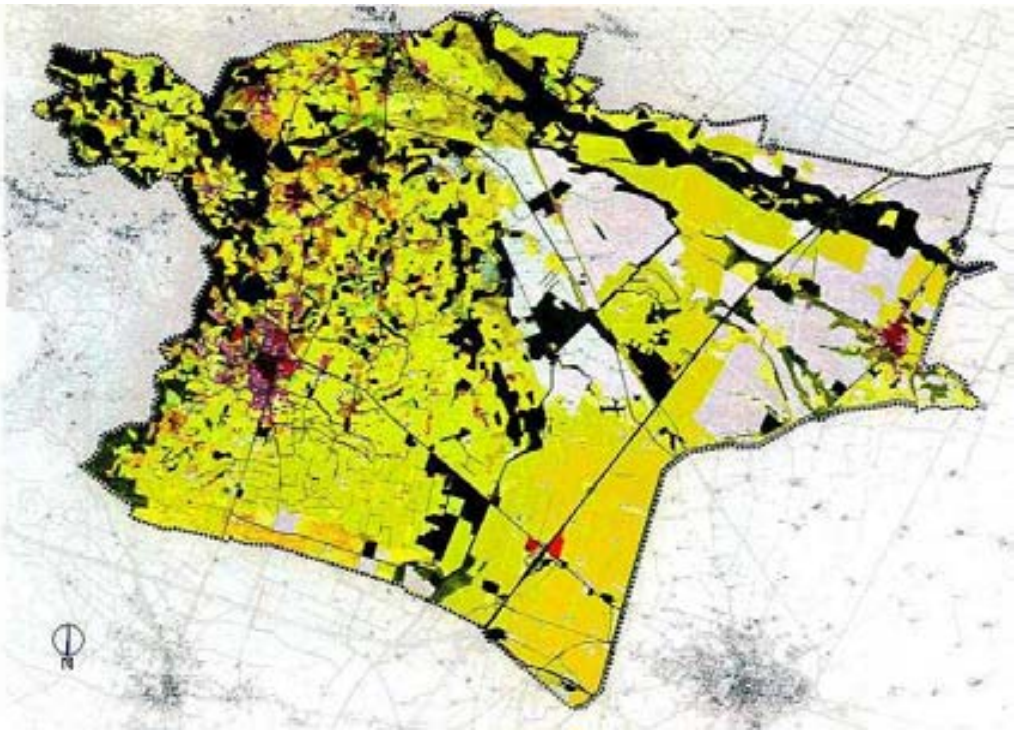
The general sense of this work has been the identification of a possible right way of land planning, mainly in view of a socio-economical development, but also in view of a preservation of the cultural and historical human heritage and the ecological protection, in the awareness that the environmental factors are , to-day, a very important vital resource to be protected and set off.
For this reason, a scientific territorial analysis has been adopted , based on the landscape ecology features, that gives new instruments for the environmental system.

The landscape ecology, unlike the traditional planning, allows to reduce the happening developments on the territory, generally very complicated and wide, to a functional model, through which it is possible to identify and quantify the transformations occurred to the territory over the years.
Furthermore it is possible to suggest and adapt practically the operations to the environmental needs and mainly to check previously the same project testing the suggested actions and the evaluation of their results on the environment.
The project has been applied for the environmental restyling to the Brianco area, a composite territory, between the end of the Ivrea Serra and the intensively cultivated Vercellese lowland, working through three different phases: check and analysis, project and testing.

During the analysis we considered three different historical periods: 1967, 1986, 1994.

A territorial study whatever purpose we serves, cannot only describe the present situation, but must also allow for the identification of evolutionary dynamics only by which we can reconstruct current trends.
In operational terms having reconstructed the ecological tissue by means of the compilation of the soil use maps for the three historical periods, we formulated the functional interpretative model using some ecological control indexes.



These are sintetical evaluation instruments which allow for the qualitative ans quantitative identification of the resource and decay elements: the more fragile and more stable elements of a territory.
For these indexes, fields of variability have been defined within which the optimum values should fit in, in order to create a balance in the system under examination.
These are the checking indexes regarding the functions:

- **Biological territorial capacity (Btc)** (Mcal/mq/year)
- **Belonging to functional apparatus** (%)
- **Standard Habitat** (mq/ inhabitants)

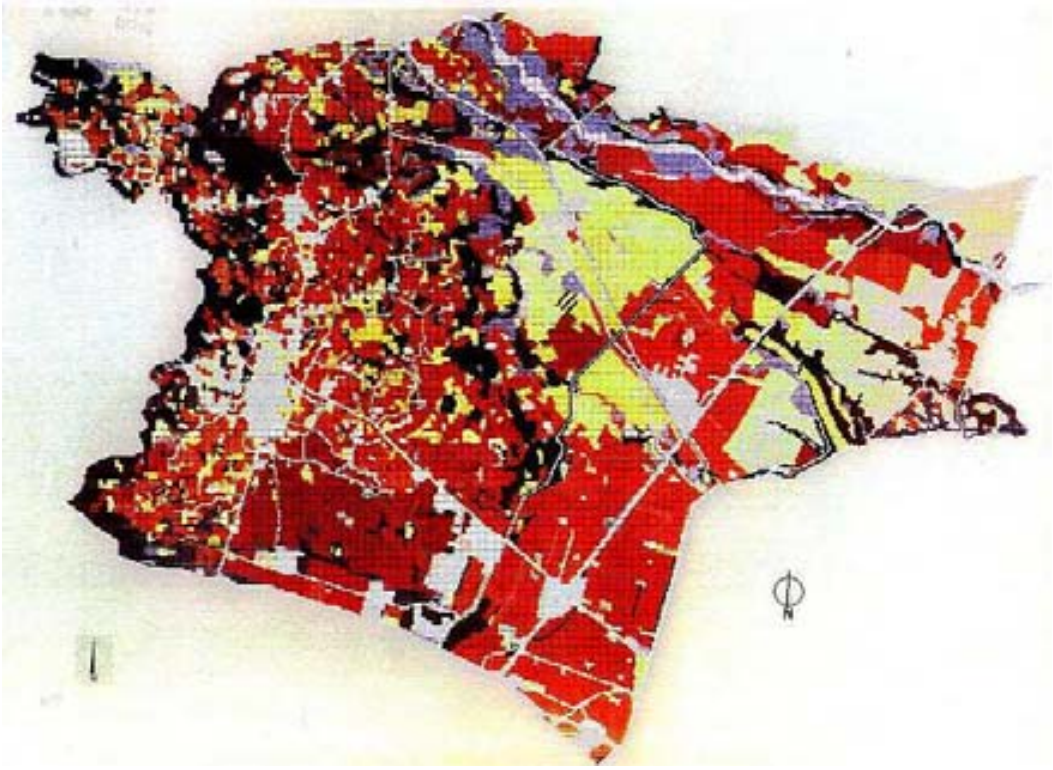
and the indexes regarding the structure:

- **Human Habitat and Natural Habitat** (%)
- **Heterogeneity**
- **Average grain of territory** (ha)
- **Biotope percolation**

The index analysis set off the ecotonal of marginal nature of the area under examination, including two strongly contrasting realities, which tend to close and reduce the reciprocal flow of energy: the Ivrea Serra and the Vercellese lowland, a landscape strongly influenced by human settlement.
On first analysis, if the eco-tissue under investigation is considered a single environmental unit (interest level) an involutional trend emerges, therefore the present environmental system presents a biological potential which is inferior to theta of the past and only by means of a more refined and detailed analysis to opposite realities can be observed:
- areas connected to the Serra morainic system, in which a stabilizing apparatus prevails, formed by large expanding woods in the process of renaturalisation following the marginalisation of hill agriculture, with the consequential production of

remarkable quantities of natural energy, a potential reserve for a much larger environmental system than that of the Serra;
- areas which are functionally and economically connected to the Vercellese lowland with is prevalent of productive apparatus organized into technological agricultural fields, whose productive profitability causes an enormous energetic deficit.

The project conclusions elaborated a nucleus of specific proposal.
First of all the creation of real econet capable of reconnecting the various natural elements thereby guaranteeing the transfer of positive natural energy from the ecologically richer areas to those drastically modified by man.
In operational terms: reforestation, protection ribbons, wildlife corridors, fauna microhabitat and particularly interesting, the creation of para-natural eco-systems, in decayed environments such as disused quarries or delicate areas such as wetlands.



This is not only to improve the quality of the environments but also to construct natural laboratories for the study and the observation of the ecological succession of the eco-systems.

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