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## From the Masterplan to the final project

Antonio Longo

In november 2007, at the request of Fabio Terragni, recently appointed chairman and managing director of Autostrada pedemontana lombarda Spa (Apl), a group of designers and faculty members, working under various titles at the Department of architecture and planning of the Politecnico of Milan\*, established a dedicated team at the premises of the company. From the start, the group began to address a variety of issues: the first consisted of identifying suitable criteria and methods to allocate a share of the overall budget for the construction of the motorway to compensation measures, account duly taken of the guidelines issued by the Inter-ministerial committee for economic planning (Cipe) regarding the preliminary project of the infrastructure, the indications arising from environmental impact studies, and a considerable number of requests formulated by the communities concerned. As a supplementary task, the group was asked to assess the scenarios engendered by the effects on territory of the road system envisaged by the preliminary project, and to evaluate the criteria for forest-related compensation and the relative amounts.

Having started their work by finding ways to fulfil, and align, a number of obligations, the design team sought to identify possible opportunities as it gradually explored their legitimate sphere of action. The instructions formulated by the Cipe committee, the starting point for the project, and an examination of the requests voiced by the local stakeholders made it possible to identify two broad sets of issues: an initial set regarding the outline, the characteristics and the quality of the motorway and the direct and indirect impacts of this infrastructure on specific locations, and another set to do with large-scale environmental and territorial aspects affecting the system as a whole.

The combination of local and general issues made it clear that it was necessary to 'raise one's sights' and seek a global sense by reconstructing a unified vision from the diversified multiplicity of issues, requests and design specifications, at least to the extent feasible.

Accordingly, environment- and forest-related compensation measures and complementary road network scenarios were the starting point of a design process which gave shape progressively to the project, in terms of goals, strategies and forms, while defining its legitimate sphere of action. To keep up with the rapid pace of the motorway construction process, the job was carried out in three stages corresponding to as many products:

– first of all, the team conceived a masterplan for the coordination of compensation works encompassing the entirety of the territories concerned. The masterplan is comprised of two types of landscape project: a greenway between the Brembo and the Olona rivers and 47 (initially 50) interventions on open spaces in the municipalities

and the parks bisected by the motorway;

– the overall goals having been defined, two feasibility studies were conducted to define in detail the greenway and the local projects, from the technical and economic standpoints and in terms of local expectations and demands.

By making it possible to assess differences and priorities, the feasibility projects provided advance insight into management evaluations, which affected the decisions as to which projects should be developed in definitive form;

– finally, in close collaboration with the Ciil consortium, the team produced the final projects for the greenway and the 29 local interventions, and made the necessary preparations to enable the remaining local projects – awaiting the allocation of tied-up funds – to be developed by the respective recipients as compensation measures.

Thus the project developed fast, through a chain of choices and highly diversified technical projects (from a strategic-structural project geared to dialogue and interaction to a set of validated final projects ready for implementation through a call for tenders, and the advance evaluation of management aspects), and based on a perfect integration of the different contributions, in the fields of management and policy-making, technical and city planning, infrastructure design, agronomy and landscape design, forestry and transportation, and methods of assessment. Affecting more than 90 municipalities, the set of interventions was aimed to set in motion a 'critical mass' of ca 450 ha distributed over the territory according to a pattern reflecting the respective compensation values and linked by the ribbon of the greenway. Prompted by the need to publicise quickly and effectively the objectives pursued in terms of integration and coordination of local opportunities, and to give a clearly recognisable name to the task in hand, the working group decided to use an expression already known to the project stakeholders: many mayors, local technicians, and the inhabitants of the areas affected by the infrastructural works had shared the experience of 'The infinite city', a show curated by Aldo Bonomi for the 2004 edition of the Milan Triennial, where they had been able to see a 'mise en scène' of their territories and to perceive themselves as part of the plurality of people and places within reach of the infrastructure. Thus, using an expression that had become familiar to all the people concerned and giving it pride of place within the space of the project – and twisting its meaning a little –, the project regarding the environmental compensation measures for the Apl Spa motorway was given the (well-wishing) name of 'A Park for the infinite city'.

### *Masterplan: the design concept*

The structural design concept that inspired the masterplan was aimed to strengthen the environmental systems characterising the land delimited by the Brembo and the Ticino rivers running in the north-south direction,

and to revamp the open spaces left in this area along an east-west backbone running parallel to the motorway that divides - and links together - the open spaces in question. The backbone consists of a green stretch of variable thickness (from a single ecological hedge to a vast park) that houses a slow route connected with the local road network. Essential elements of the environmental system are 12 Plis (local parks of supra-municipal interest) and 5 regional parks, as well as the local portions of the river basins.

The strategic diagram makes it possible to organise in a unitary manner:

- an east-west greenway: a route reaching into the various territories, to be used by segments, as opposed to over its full expanse, and whose outline establishes relationships with local resources and brings attention and protection to places currently forsaken and run-down;
- 50 local projects characterised by the constant, exclusive presence of a chosen few landscape design elements, combined in different ways as a function of the characteristics of the space concerned: woods, grassland, rows of trees and hedges, bike paths may add up to very different interventions, from a new urban park to the reconstruction of rows of trees within an agro-environmental system providing for the creation of a new wood. In the masterplan the individual local projects are presented in data sheets for use in the interaction with the municipalities.

Masterplan: 10 guiding principles Strategic guiding principles were defined together with the masterplan. These principles, applying to the entire system of compensation measures, were meant to serve as sort of 'chart' to refer to when discussing matters with the interlocutors:

- the environmental projects use only five basic 'green materials', that can be combined in different ways: grass cover; hedges; tree rows; woods; walking and cycling paths;
- the project refers both to a clearly defined overall scheme and to a plurality of local projects, diversified and rooted in the territory;
- the project promotes synergetic effects between environmental and forestry compensation works;
- environmental compensation works are designed to maximise the reach of the effects and to achieve a proportional redistribution between the municipalities;
- to the extent feasible, environmental compensation measures are preventive in nature;
- the projects take into due account the conditions of operability and future management of the interventions;
- start-up projects are designed to trigger requalification processes encompassing a wider territory;
- the projects are expected to have synergetic effects with other environmental interventions;
- the interventions are meant to interact with the final plan of the motorway and the secondary road networks;
- environmental compensation projects accept the indications arising from environmental impact studies and the provisions set forth in the Cipe resolutions, reflect the

conclusions reached at the negotiation tables specified in the programme agreement, and take local projectuality into due account.

#### *Feasibility studies: greenway and local projects*

The feasibility studies, conducted after the approval of the guidelines set forth in the masterplan by the programme agreement surveillance committee, made it possible to work out the technical and economic details of the project, i.e., information deemed indispensable to make the project credible in the eyes of the interlocutors. Cutting across the territory in the east-west direction, the greenway creates an uninterrupted link between built-up areas and parks. It goes through the former by taking advantage of the last corridors available and patches together the existing portions of the biking mobility system with new overpasses and underpasses, while enhancing open space islands. It goes through the parks, the river valleys and the farmlands using existing biking paths and the network of rural roads, and, in doing so, often restores broken links. The continuity of the greenway and the ability to intercept local values recognised by the people living in the area (by establishing concrete relationships between local spaces/initiatives and the general scheme) were two fundamental prerequisites of the job.

The greater accuracy of the data obtained from the feasibility studies made it possible to expand the reach of the projects – in a controlled manner – to wider scenarios that clarified the partial meaning of the 'initial functional lots' prefiguring possible extensions. With reference to the overall design, the projects were distributed with the aim to strengthen the north-south environmental systems and to enhance the effectiveness of the east-west greenway corridor.

#### *Final projects*

As is known, producing the final project for a public work, whether an infrastructure or a green area, is a highly complex task, since it transfers every consideration to the stringent sphere of technical and economic dimensioning, it must bring about the integration between different project components that have to be glitchlessly coordinated, and it must ensure compliance with certified criteria, subject to validation procedures. Not surprisingly, for an overall project developed so fast, in the conditions described, and involving so many different situations and such a large territory (a greenway extending over 110 km and 29 park projects of very different sizes and shapes – some of compact design and some ramified), the final stage proved a test of solidity and a moment of verification: on a strictly technical level, in the choice of the sections, types of paving materials and plant species, types and layout of the woods and hedges, and in broader terms, the validity of the overall strategy, since all the interlocutors concerned gradually came to realise that compensation works had the same presence (and procedural force) as the motorway

project.

At this stage, the project was developed in liaison with the engineering firms (especially technical and programmatic) belonging to the Ciiil consortium, winner of the tender for the final project of the work (as well as a partner of Impregilo, the general contractor for a portion of the work). The identification of typological features and special works for recurrent elements and products was inspired by the same criteria underlying the concurrent development of the infrastructure, i.e., maximum simplification of the design, based on the belief that sturdiness and cost-effectiveness, mated to characteristics that make the various elements clearly recognisable as part of an overall system, are the indispensable qualities of a work designed to last and be maintained over time.

## Designing for and in the land

*Christian Novak*

Walking and prefiguring, between surveying and design visions. A design project extending over one hundred kilometres can be defined as a huge scale project. Sheer size and time constraints seemed to suggest working mostly on paper. Things went differently. Walking along the greenway, through the woods, in the plains, down the rural roads of the 45 local projects, looking for passageways, picturing in the mind possible interventions, making notes of views and elements of disturbance, and also, above all, enjoying the rare stretches of natural or agricultural land still pleasurable to the eye. Walking alone or in the company of local administrators, militant environmentalists, technicians or farmers, stopping to exchange a few words, noticing how a place is used, kept... this is a valuable practice that should not be dispensed with.

Walking has been a process of construction, always closely associated with and a priori relative to the construction of design hypotheses.

Knowledge intimately connected with practice. A knowledge of the places is inextricably and intimately linked with what we do. It permitted an ongoing regeneration of the design project and a fruitful exchange of opinions with local players. Sitting at a table, or in the middle of a field, with a mayor that explains, points out things, narrates, makes all the difference, as does a direct knowledge of the places: it helps to create a climate of mutual trust and frank collaboration with the local community. Exchanging opinions based on a knowledge of the place, being ready to take a step back when confronted with a legitimate request by the local administration, whether or not we agree with it, made it possible to discard the classical notion of designing and interacting – based on listening, analysing, producing a draft project and refining it – in favour of a more constructive interaction, a more project-oriented approach.

As a rule, overall project consistency and the acceptance of the desiderata voiced by the local administrations and park management bodies are two elements that do not normally go together well. In the course of the project, a fine balance was struck between the engrained rigidity of the initial design scheme and local demands, generally more complex and less straightforward. The design principles, as defined initially in the masterplan, continued to guide the project up to its final formulation, all the time retaining their consistency, as well as their evocative power and their effectiveness in the interchange with the local administrations.

The project as a catalyst. To the extent feasible, the project was based on interventions and proposals by the park management bodies and the local administrations. The project took full advantage of local contributions, while at the same time trying to select them and har-

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monise them with the complexity of the project and the guiding principles thereof, functioning as a catalyst, as a flywheel in activating new policies for the protection, and the creation, of open spaces. Local projects and, albeit in a different manner, the greenway too, were construed as start-up projects, the initial functional elements of potentially broader projects, partly prefigured in scenario schemes. Apportioning the funds available for environmental compensation works between the various municipalities was no easy task: having to take into account the environmental impacts of the infrastructure on the individual territories, it underwent significant variations up to the conclusion of the project. This underscored even further the need to build flexibility into the project while at the same time retaining overall system consistency. From the back to the fore. The project regarded open spaces as essential factors in re-establishing a proper balance of natural and manmade landscapes. Open spaces, often residual in nature, were restored to a central position in the project, and made into a focus of attention: all their contradictions and their deficiencies were identified, their potential was underscored. Conceiving a new role for marginal spaces, oftentimes left out by the limited vision of the planning process, and confined to the role of land up for grab or preserved for future expansion, signified, first and foremost, to address the transformation of spaces without hiding the transformative force of the motorway project behind conservative screens, seeking a balance between the preservation of the landscapes bisected and the restructuring and reinvention thereof.

## Around a road: from impact compensation to nature and landscape design

*Paolo Pileri*

The authentic challenge of the concept of environmental compensation is a full integration with the project. In the experience of Autostrada pedemontana lombarda we can't say that things went exactly that way: compensation measures were defined after the project, also following a Cipe request (a ministerial agency in charge for assessing public projects).

Thus, to understand the importance and the specific quality of the project we have to look at some concepts used as terms of reference in the project.

Compensation vs. mitigation. No misunderstandings are allowed. According to Kuiper, compensation is the restoration of landscape and natural values lost or degraded by an occurred transformation in the territory. Mitigation is a remedy attenuating the negative effects of a transformation and, generally, it consists of measures affecting areas close to the new works.

Homologous compensation. It is often accepted that an intervention altering a (natural) landscape can be counterbalanced also by activities or interventions that have almost nothing to do with the environment. Instead here it has been applied the correct principle based on the notion of 'giving back to nature what has been taken away from it', as applied in Germany.

Compensation must always be taken into due account. No transformations exist without a (minimal) impact, so environmental compensation has to be always taken into consideration. Compensation in advance. The ecologic balance of the eco-landscape should always be positive. To accomplish this goal, compensations should be realized before the environmental impacts. Compensation provides an opportunity to launch a project for open spaces. The notion of responsible design integrated with the concept of environmental compensation offers local administrators the unique chance to request new areas for environmental projects contributing to solve one of the most serious bottlenecks of the ecological landscape planning.

Compensation in the other countries. The idea of compensation is known and applied in many countries. In the U.S., impacts on a wetland are compensated using a ratio of approx. 1:1 - 4:1. The same principle was introduced in Canada in the early 1990s. In Europe several European countries adopted the principle of ecological-environmental compensation (Belgium, Denmark, Germany, the Netherlands, U.K., Sweden and Switzerland) implementing it in different ways. In Germany the principle was accepted in the late 1970s and nowadays it is a more robust practice (in Bavaria). In the Netherlands this principle has been adopted for about twelve years in some highway design (the first compensation plan dates

back to 1995) where compensation costs can be max 8.4% relative to the costs for building-up the highway and constitute one of the main budget entries; for this reason, it's thinking of setting a limit of 2.3% on compensation costs, mated to the obligation to place limitations on the foreseeable impacts.

Compensation measures for the Apl project: greenways and local projects. The Autostrada pedemontana lombarda motorway cuts across many north-south ecological corridors and consumed an appreciable amount of land in a landscape already stressed. In the central part of Brianza the urbanized area comes to 73%, in the Groane area to 45%, in the Lambro area to 54% and in Vimercate area to 33%. Though it cannot remedy all damages, environmental compensation tried to enforce/improve the remaining open spaces through 45 local projects relied on two basic keys. The first, the provision of areas, in part already public and in part to acquire (ca 180 ha) using 24 million euro of the compensation budget. The second is a budget of 25 million euro for greening these areas (grasslands, hedgerows, woods and wetlands). Then the greenway, connecting the northern part of Milan from east to west, is both a walking-cycling path and an ecological resource that people can use to let their nature awareness growth. Grasslands, hedgerows, woods and wetlands are the only materials proposed to the local communities for the local projects and for equipping the greenway. This choice was non negotiable. The idea of proposing 'exclusively' green projects led the stakeholders to concentrate on this aspect and helped them to pick up this opportunity to restore the environmental quality of their landscape. The strong idea regarding the non negotiable character of these contents was effective in obtaining the project in its current configuration.

## What a project is about

*Fabio Terragni*

Because of my cultural background as an environmentalist, when i accepted the office of chairman and managing director of Apl Spa i felt i was exchanging a personal challenge for a collective one. In a territory characterised by a severe environmental deficit, expanding the road and motorway network is a need that cannot be ignored. In the past, both the environmentalist world and the political and professional milieus have shown little propensity to reconcile creative and management actions. But even the professional and technical worlds suffer from a rift between criticism and responsibility for action, as borne out by a decline in the capacity for an effective, integrated management of projects. The devastation of the Italian landscape, that we have accepted in the name of the need to take action and in the name of efficiency, is under our eyes, for everyone to see.

As soon as I took office I decided to bring about a change in the cultural and technical approach to project management. We created a company to handle the technical development and the financial management of the project, and established fruitful relations with the local administrators, this being a fundamental aspect that affects a project's management efficiency. Local communities, in fact, oppose in a systematic matter technical projects whose value to the community and relationship with the territory are not clearly understood.

Accordingly, we were able to redefine the project by considering the motorway not just as a mere engineering work but also as a unique opportunity for the upkeep and the transformation of the territory. We were moved by a conviction that a work of this significance should also be beautiful, it must respect the relations with the territory and have a minimal impact on the environment. The infinite city that is crossed by the new motorway is a badly deteriorated land, that has undergone a tumultuous development. Works such as the new Autostrada pedemontana may contribute to an overall reorganisation and improvement of the territory. With this notion in mind we interacted with the local communities, the stakeholders and the institutions concerned.

It was not easy to engage in an intensive dialogue with the institutions and the local population: the main difficulty lies in getting across the idea that change should be seen an opportunity, instead of something that is necessarily harmful. In general, we are ready to accept changes as long as they are infinitesimal, no matter whether in actual fact they are going to change our environment very soon, but we are afraid of major changes. When confronted with a major project giving rise to far-reaching transformations, people tend to react with fear and refusal. Changes have to be concealed, masked, not in plain view, and hence the motorway has to be remote, placed at the distant edge of the map, preferably

underground.

In this difficult setting we redefined the main project, introduced new compensation measures and revised the architecture of the road together with Aurelio Galfetti, shunning monumentality and seeking lightness and essentiality.

To restore the consonance between the infrastructure and the territory is a fundamental objective according to the approach of the future management, in particular, when dealing with environmental and compensation works that will not remain under the control of the motorway authority, other than to a partial extent, and will be entrusted to the municipal governments. Environmental works must be handled according to the same criteria as the motorway, according to a long-term perspective that is able to introduce economic elements that are virtuous in nature, mated to initiatives that can support them.

The pedemontana motorway is a veritable upheaval requiring territorial policies having the greatest possible scope, while still remaining in the realm of things possible. Major infrastructures should always be supported by planning and management programmes geared to the highest degree of flexibility and quality, according to the times and methods that can engender a structure nourished by the passion of the people, embodying the quintessential notion of a civil work.

## **Infrastructures and the territory: the reasons for an encounter that continues to be difficult and the story of an attempt to change things 'in process'**

Arturo Lanzani, Paola Pucci

The project for the environmental compensation of Apl Spa described in these pages developed according to a remedial, a posteriori logic. It was an attempt to bring about an in-process reform, an attempt initiated by the 'new' company, società Autostrada pedemontana lombarda Spa (Apl), established by Fabio Terragni and Umberto Regalia, that also led to the revision of the preliminary project promoted by the internal design office (headed by Giovanni Cannito with the consultancy of Aurelio Galfetti and Fabio Nocentini), the work conducted by the Ciil consortium on the final project, and a new stage of interaction with the municipalities and provinces concerned, designed to monitor quality advancements and project feasibility. In this scenario it may be worthwhile to consider the meaning of the terms infrastructure and territory integrated project:

Integrating infrastructural works, city and settlement geography. This is the first dimension of an integrated project, at the basis of important and original traditions of thought in our country; among these, the most remote in time are the ideas voiced by Carlo Cattaneo, regarding, in particular, possible alternative routes for the Milan-Venice railway line: infrastructures are often dealt with as a series of projects to be pasted together, paying no heed to settlement geography and the demand for mobility of the local communities, and providing no opportunities to speed up the process of reorganisation of the areas flanking the infrastructure.

A contradictory element, inherited by the final project, is the classification of the pedemontana as a motorway in lieu of a ring road 'internal' to a densely urbanised expanse of land. This choice reduces the number of junctions, which are too far apart to meet local mobility requirements, and gives the infrastructure geometric characteristics not consonant with the shape and the uses of the land. Other negative factors include the scarce attention paid in Italy to the layout of built-up areas as a matrix for policies and projects in this sector, and a culture of infrastructural design that seems to have lost its multidisciplinary dimension.

Integrating the new work with the overall infrastructural network. The integration of the new work into the overall road network should be a starting point for broader programmes for the reorganisation and requalification

of the territory. In this connection, the story of the Apl Spa presents an ambivalent character. In the period preceding the preliminary project drawn up in 2003, the hypothesis had been to implement a netlike intervention involving the requalification of existing roads. This hypothesis ran into problems to do with funding and constraints associated with motorway concessions. Part of this initial conception, however, is still at work in the Apl Spa project, as borne out by the tightly knit complementary road network that accompanies it ('connected works' extending over 70 km), and the sinuous shape of the motorway, whose outline makes it possible to reuse a portion of the existing Milano-Lentate freeway (where rehabilitation works have begun), a choice that reduces the impact on the territory and releases resources.

The complementary mobility network as defined in the project entails the construction of new corridors that are going to have a devastating impact on the environment, and whose design is likely to spawn new urbanised areas and duplicate existing roads instead of allocating resources to their rehabilitation and safer conditions. The difficulties encountered in trying to integrate the infrastructures can also be observed in relation to the numerous radial railway lines, the metro-tramways and the extension of subway/light rail connections to adjacent towns, as envisaged in the project for the territory crossed by the motorway, as well as in relation to the cargo railway line to be constructed between the Gotthard Pass and the city of Treviglio, some segments of which are coplanar with the motorway.

In the absence of an overall plan, it would be necessary, as a minimum, to take action on individual projects for infrastructures that might contribute to reconstructing a common framework for projects that are not far apart, activate huge investments, mobilise resources, know-how and interests, even conflicting interests in some instances, and should not be defined solely as a function of mobility demands.

Integrating the outlines of the new infrastructures into the environmental 'fabric' of the territory. The characteristics of the territory should guide the design of the project in each and every stage of its development. This is a principle that can hardly be traced in Italy's infrastructural projects. Indubitably, this is a delicate aspect for the project of the Autostrada pedemontana lombarda Spa, on account of its being heavily affected by many of the – perfectly senseless – choices built into the preliminary project. Equally detrimental are the design solutions adopted for the complementary network of roads that spread out radially from the urbanised areas, thereby sectioning the green areas, creating 'entrapped' residual spaces, and providing opportunities for the construction of new, ribbon-like strings of buildings. The know-how of the land, the know-how of the environment must be included in the preliminary project even before the problem of starting the environmental evaluation procedures is addressed, as these procedures alone cannot ensure a successful integration in the environment and

the landscape, which requires much more than the application of procedures attached a posteriori to a monodisciplinary project. Social consultation procedures cannot transfer to the environment the repercussions of localisation choices. But this requires an assumption of responsibility by the central and regional governments for environmental issues and the long-term effects of a project, going beyond the easy rhetoric of 'defining the projects with the participation of the territory'.

Integrating functional and architectural considerations. Reconciling function, architecture and landscape has been a classical theme of the culture of civil engineering from the very start: the emphasis was placed on composition and construction rules, the recognisability of a unitary rule, the details of a work, highlighting the relationship between the infrastructure and the territory, staging the sequences, the rhythms of the landscape, as may be perceived through the use of the infrastructure. Having grasped the problem, with a view to improving the design of the products, the pedemontana company and the regional government sought the aid of specialists, such as Cesare Macchi Cassia at the Cal company (Concessioni autostradali lombarde Spa), Aurelio Galfetti and Fabio Nocentini at the pedemontana company. Their activities, carried out in liaison with an internal pedemontana design team and the companies entrusted with the final project (Ciil consortium members), took their cue from the consideration that the motorway runs through a landscape fraught with an amazing quantity of signs, impregnated with a strong background noise, and forming a recognisable, uninterrupted object that only through its unity can underscore the differences along its course. Integrating the infrastructure and the design of new built-up spaces.

The Italian landscape has been greatly modified by the construction activities that have taken place along the entire road network. At the same time, failure to upgrade the nodes of the railway and metro-tramway transit networks has contributed to hampering the growth of public transport. An analysis of the root causes of the rift between land use and mobility policies would take up many pages. We shall therefore propose only two considerations here. The first consideration concerns the failure to accompany this infrastructure (and other similar works) with an Area plan, as provided for in the legislation of Lombardy. The territory will be exposed to pressures for the construction of new settlements along the banks of the motorway and at the junctions, to be governed on the territorial scale. It is absurd that there is no room for a strategic discourse about the volumes, functions and architectural structures that might be placed at some potential intermodal nodes. The other consideration is about the ambiguous handling of new constructions by the infrastructural policies (in Lombardy, law 15/2008 'Infrastructures of concurrent state and regional interest'); in some cases (the Umbria-Marche quadrilateral, the Passante di Mestre motorway section), the possibility of constructions being erected in



some areas adjacent to the infrastructures is considered solely as a mechanism to raise funds for the work. The intention is to collect part of the revenues from rentals and real estate valorisation. It would be wiser to obtain the necessary funds through the introduction of destination taxes accompanied by preventive economic evaluations to ascertain the distribution of the benefits and the damages entailed.

Integrating the infrastructure and the project for the protection and the requalification of the open spaces along the route.

This is the issue addressed by the project for the environmental compensation of the Autostrada pedemontana lombarda Spa that provides for the upgrading of a sizeable proportion of the open spaces where real estate valorisation has not yet consolidated. In this connection, some positive experiences have been recorded in different zones of the country. But in this case too some problematic aspects have to be considered, including: a) frequent resort to non-homologous compensation measures, whereby the resources are often, paradoxically, transferred to other investments in mobility infrastructures; b) the difficulties encountered in working out a valorisation project that, in the absence of an Area Plan, might introduce some useful constraints promoting the requalification of open spaces; c) uncertainty regarding who should implement the compensation measures; d) failure to ensure a continuous flow of resources for the maintenance and long-term implementation of environmental projects, which, in our opinion, should be connected with a corresponding percentage of the income from tolls.

Apl Spa has adopted the principles – truly revolutionary in as much as they are ordinary and common sense – that “environmental compensation should be environmental compensation and not anything else”, and that compensation measures should be a starting point for a broader range of interventions. A strong choice that has met with the favour of all the players in the field (the regional, municipal and provincial governments, the park management bodies).

The project presented herein combines realism and passion for change, tactical wit and imagination. Every concrete completed project is flanked by the construction of a possible evolutive scenario for the entire unbuilt area. Accordingly, the project has taken shape through an intense activity of involvement and exchange of opinions with municipalities and associations, direct observation of the locations, the production of an initial drawing as the starting point for the interaction with the various players, reversing the habitual sequence that goes from the interaction to the drawing. The different degree of detail of the greenway and the local projects has already triggered a discussion concerning possible implementation modalities, and the presence of technical-political structures that may be able to handle the management, not just the implementation, of the project. Finally, the project addresses implementation, management and main-

tenance issues. By encouraging a strategic outlook, it forcefully opposes the subordination of the reasons of city planning, geography, architecture, agroforestry, civil and environmental engineering (just to mention the disciplines involved in this study) to political motivations or sectorial approaches that deny our multidisciplinary and civil culture.

## Architecture and the environment. A space for people travelling by car

*Aurelio Galfetti, Fabio Nocentini*

Driving on the motorway, running along different route segments, recognising continuity. Picturing in the mind a sequence of interconnected environments, composed, free of strident contrasts. Prefiguring an uninterrupted, unitary, elongated space. Composing the geometries around the central theme of the identity of a space. Conceiving built-up parts as a unified whole. This is the basic set of seemingly elementary concepts that must guide the observation and the reorganisation of the preliminary project for the motorway, previously approved based on a number of typological specifications and detailed projects for use in the reconstruction of an overall project for the infrastructure.

Typological specification ('Abacus'). The contents of the abacus constituted the first attempt to address the following needs:

- reorganise the designations of road building products;
- reduce the number of typological elements used, and redesign them thoroughly;
- simplify the spatial themes at the interfaces between different environments;
- use concrete throughout, in order to avoid the dispersion and heterogeneity of building materials.

Inspired by the all-pervasive themes of light and shadow, homogeneity, lightness-elegance, the typicisation process redesigned: tunnel portals, bridges, viaducts and the relative supports, earth-retaining walls, trench sections, flanking walls, underpasses. Three environments of special significance and/or delicacy were also redesigned: the bridges across the Lambro, Molgora and Adda rivers.

Defining the final project. The development of the motorway route is dictated by pre-existing conditions and is necessarily confined within residual spaces besieged by the uncontrolled growth of urbanised areas. At the same time, the road is almost invariably set low relative to the ground level, in the alternation of trench and tunnel spaces. With the final project, a more careful analytical elements and the specific contexts changed the outlook on project priorities. First of all, the identity of the different motorway spaces was defined, and then the various objects and their characteristics were worked out. The need to ensure the integrity of the trench, mated to the specific configurations of its sections, determines the shape and the position of the portals. the accessory technical devices, the static conception and the material of the overpasses rising above it.

In the process. As work progressed, a concrete, fruitful exchange of ideas was undertaken with the management and the technical staff of Apl Spa. As a result, their expectations gradually changed, moving away from an initial focus on an object brimming with magniloquent points, according to a widespread attitude that mistakes

the definition of the character of an architectural creation for an opportunity to introduce parts, meanings and references that are extraneous to it. Our work in support of the groups of architects, engineers, landscape designers was guided by our conviction that defining the overall character of an infrastructure should consist of rearranging and organising different fragments and languages on the same plane. It means endowing the motorway stretch between Varese and Bergamo - to the extent feasible - with a recognisable dimension, unified in terms of constituent materials, characterised by a coherent, unpretentious language, with none of the heterogeneous, fragmented characteristics of the areas bisected, and perhaps even able to stimulate forcefully a possible reorganisation of spaces lying outside the scope of the design project.

## Parks, landscapes, european territory. Nature and landscape conservation in planning

Roberto Gambino

The parks-landscape duo evokes, metaphorically, the new alliance between nature conservation policies and those for the territory. This convergence is gaining ground at global level, according to a conception of the world that acknowledges the inseparability of human communities from the environments they shape during their history (see Phillips, Borrini-Feyerabend).

Despite the importance assumed by conservation problems at global level, international and European policies seem inadequate. The strong impetus given to landscape policies by the Convention on landscape (Coe 2000) has not as yet been echoed inside the European union (see Voghera). Even the policies of the 'protected areas' are still far from constituting 'system' policies. This causes an under-estimation of the role that 'protected areas' can play in promoting sustainable development of the territory, albeit their dissemination, that is the result of an intense growth still in course (see Thomasset).

The increase in protected areas, the joint offshoot of processes of territorial transformation have accentuated exposure to the risks of 'insularisation', making relationships between the areas and their contexts critical, especially in Europe. This relationship assumes exemplary connotations in the extreme case of the Sacri monti, intentionally confined and yet rich in natural and cultural interactions with their contexts (see Cassatella). Very often, it highlights the need and difficulty of adopting trans-scalar approaches, as in the case of the Park of the Po delta (see Gambino Raffaella).

The most direct response to the risks of insularisation rotates around the concept of network. The environmental valorisation project illustrated in these pages (see Malcevski, Terzuolo, Thomasset) represents an attempt to build a complex 'environmental infrastructure'.

The network perspective is of assistance when trying to attribute a concrete innovative meaning to the concept of conservation. However, current practices and policies are still widely infused with the opposite idea, i.e. that conservation implies only constraints and that, to innovate, any conservative option must be abandoned: an ill-advised idea, as demonstrated for example by the devastating development of coastal landscapes (see Salizzoni).

The need to integrate conservation and innovation is even more evident in the metropolitan landscapes. The 'Corona verde project' (Turin) offers a twofold suggestion. As regards effective requalification strategies of the entire area, the advisability of over-turning the traditional approach, starting from open spaces instead of from what has already been built, in order to redesign the shapes of the city (see Castelnovi). As regards method (see Peano), the advisability of introducing the strategic

dimension in the trans-scalar frame of ordinary territorial management and planning, adopting territorial governance as a key for more effective conservation policies. It is in this complex framework, that an attempt can be made to respond positively to the insidious question (see Phillips, Borrini-Feyerabend): why, for whom and at what conditions is nature and landscape conservation to be planned?

## Embracing diversity, equity and change in the landscape

*Adrian Phillips, Grazia Borrini-Feyerabend*

On the face of it, landscape is a rather slippery notion. On the one hand, it cannot be quantified and measured. On the other, it cannot be translated accurately from one language to another. But while the concept of 'landscape' is profoundly related to the culture interpreting it, changing as fast and comprehensively as that culture does, 'landscape' nonetheless speaks to almost anyone: it is a broadly diffused and powerful notion. Today, a novel 'landscape approach' is beginning to help professionals and communities as they struggle with conservation needs at a time of unprecedented global change.

There exist two prevailing views about the meaning of 'landscape' in a conservation context. For many, it is best thought of as a noun, meaning that values-filled dynamic mosaic that is the result of the interaction among, and between, natural and human factors in a given environment. Although the extent to which humans affected their landscapes varies enormously with location and history, individual landscapes contain a record of past and current human actions. In this sense, they embody tangible and intangible values, they are powerful expressions of heritage and are a foundation of social and personal identity. If we are to manage change so that landscape values continue to thrive, we need to understand ecological history, the interaction of 'culture' and 'nature', and the diverse governance and management arrangements that solve conflicts by effective negotiation.

In this perspective, the conservation of biodiversity and the maintenance of the ecological functions of nature coexist in the landscape with the production of goods and services to support livelihoods and satisfy changing human needs, including needs related to culture and identity. The main challenges here are the harmonious coexistence of multiple values and the equitable governance of active and reactive change. With those goes the duty of maintaining the social values and meanings, as well as the biological connectivity and other systemic connections that make the landscape a whole rather than a mere sum of parts or sites.

A second rather widespread perspective sees landscape as a sort of adjective, an indication of 'large scale'. In this view, landscape is a dimension large enough to allow negotiated trade-offs between different needs and wants. In other words, at the 'landscape level' we can usually find a place to do what cannot be done in another. In a conservation context, for example, it might be impossible to conserve all biological values within a single site, but this may be done within a larger landscape (provided some level of conscious planning, especially in crowded landscapes that service multiple needs). Landscapes viewed in this way can also provide an ecologically supportive setting for one or more protected areas. This perspective tends to emphasize the usefulness of spatial

analyses, mapping techniques, and a variety of planning tools to identify and delineate different uses 'across the landscape'.

These two views are indeed different, and the people who hold to them are different too. Landscape as a noun is more likely to be used by individuals and communities to characterise the places with which they have a close identity. Landscape as a scalar adjective is more likely to be used by planners and technocrats. Neither view, however, excludes the other. Both are legitimate and both are needed, but questions arise when we attempt to reconcile them in a real situation: Can our efforts to conserve biodiversity within a 'broader landscape' be positively combined with efforts to enhance equity, reinforce cultural values and promote positive social change? Can ecological history help us to understand the systemic interaction of culture and nature in the specific context? What have we learned about adaptive management and adaptive governance that can be applied in our 'landscape dynamic mosaic'? What policies and tools exist to help protect, manage and plan significant landscapes and seascapes?

At the World conservation congress in Barcelona, in October 2008, we asked ourselves these questions for several concrete contexts and the answers we obtained could be grouped among three main themes:

- Landscape, a concept bridging cultures;
- Landscape, a tapestry of community governance and management units;
- Landscape, the 'visible result' of governing change through time.

We would like to suggest that these three themes, together, can be taken as broad components of a 'landscape approach'. Let us examine each of them in a bit more detail.

### *Landscape, a concept bridging cultures*

As mentioned, there are many, culturally coloured ways of relating to landscapes. For some analysts, landscapes can be placed in some sort of hierarchy defined by their quality. In this perspective, some World heritage cultural Landscapes are usually placed at the top of a hierarchy, and locally-valued landscapes at the bottom. Other analysts contest this view as elitist and argue that all landscapes matter, a view now formally enshrined in the European landscape convention (Elc). Both views, however, can be considered as 'western', since they both embrace the western separation of nature and people and see landscape as 'out there', something apart from the people who live in it.

An alternative view, rooted in the cultures of many traditional and indigenous peoples, rejects the idea that 'landscape' is separate from people.

It affirms that human communities cannot be set apart from the environments they shaped through their own history. This is one reason why the term 'landscape' does not easily translate into many languages: a comparable word simply does not exist in many non-western

cultures. Instead, many languages use words nearer to the concept of 'territory'. 'Territory' embraces several landscape-related concepts and is often thought to encompass both the material and non-material realms of nature. Sometimes, the non-material realms of nature are perceived of as alive and perhaps the most significant of all components. In some cultures, people 'become' the landscape by eating some of its products, thus affecting their ways of knowing and interacting with the world. The very 'knowledge' these people have of their own surroundings is considered to be crucial for the health and survival of the territory within which they live. While far from the understandings of western cultures, traditional perspectives such as these contain powerful insights.

The gulf between such different understandings, however, presents a challenge of cultural translation. The absence of effective communication between traditional and 'western' worlds may obstruct the achievement of important conservation gains.

Fortunately, there is also evidence that the idea of landscape provide space for new convergences and agreements. For instance, the Elc has moved away from a purely aesthetic perception of landscape (landscape as scenery) towards a view of landscapes as central to the identities of people. Many indigenous and traditional peoples also employ modern technologies, such as Gis and satellite imagery, to identify and map the places and resources that they use, and to demarcate the landscapes that define them as communities and peoples. Spiritual and other intangible values, derived from formal religious traditions or from those that are nearer to the natural world, are intimately connected with many landscapes, and this aspect has been receiving much more attention from planners in recent years. Both in the north and in the south, issues of governance and matters relating to the role of local communities are emerging as central in understanding how landscapes have developed and how they should be managed. Thus, important common ground is continuously revealed. Such common ground can help to bridge, at least in part, even those cultural perspectives that initially appeared distant, if not in outright opposition.

#### *Landscape, a tapestry of community governance and management units*

Much time could be spent on lengthy arguments about a definition of landscape. A definition that seems to work for Europe is offered by the Elc and a slight modified version for wider use could be the following: "landscape is a distinctive place where people and nature have interacted over time, and which is recognised as such by the people who inhabit it and have contributed to shape it". While remaining open about it, this is the working definition we keep in mind in this paper.

What is needed for the effective and equitable conservation of landscapes? River basins and transhumance territories seem to offer particularly feasible geography and

scale for landscape conservation, as well as emblems around which people can unite. The natural connectivity of river basins reinforces the integration of cultural and natural elements and the capacity of people to communicate and organise. And pastoral territories need to be maintained as 'wholes' and include a diversity of local habitats and spaces for the very survival of the herds and associated human livelihoods and cultures.

There is a case for people, and not necessarily 'experts', to help define landscapes, their character and their boundaries. There are indeed excellent examples, from rangelands and forests in Africa, Asia and the Americas, of how traditional communities identify the units of land and natural resources that they use as their territories, how they harness modern technology to map these places, and how they use visioning techniques to define desirable futures (planes de vida, ancestral domain plans, etc.). Community mapping techniques, in particular, have proved extremely useful to clarify peoples' ideas of their landscape and its functions.

Where there has been conflict or recent incursions of new populations, it may be difficult to obtain agreement on what are the most meaningful landscape 'units' (for management and governance purposes), and even harder to get consensus on their desired future. In the ideal case, however, it is possible to envisage the landscape as a tapestry of management units, closely related to the communities engaged in their governance and linked to them through identity, livelihoods and culture.

Iucn's widely used system of protected area categories has recently been supplemented with a 'governance dimension'. Together with the six Iucn management categories, the four governance types (governed by government; shared governance; private governance and governance by indigenous peoples and local communities) form a categories/governance 'matrix' for protected areas. Could that matrix be extended out from protected areas to the landscape as a whole? For example, the experience gained in the managing Category V protected areas, which usually are complex, multiple-use landscapes, is well suited to be transferred to the management of the wider landscape outside protected areas. To extend the matrix in this way would recognise that all governance actors have roles to play in governing the landscape, just as they do for protected areas of all categories.

For some, however, the Iucn matrix is already too rigid to accommodate the complex systems of reference of non-western cultures and its use may even restrict innovative thinking about protected areas. These people may argue that extending this matrix beyond protected areas could similarly constrain the 'language' to describe the governance of landscapes. Others, on the other hand, view the new Iucn matrix as having a liberating value, since it validates under-recognised approaches, such as Indigenous and community conserved areas (Iccas) or ad hoc local consortia (like those that exist in Cataluña, Spain), which are important inside but also

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outside protected areas. Mechanisms beyond protected area status, such as third-party certification, tax incentives and voluntary agreements, also have important roles to play. And, of course, there is plenty of room for non-western cultures to develop their own, different category-governance matrixes, while possibly also attempting to identify bridges and 'translation points' between the lucn matrix and their own.

Landscape governance issues are central to the landscape approach and concern questions of equity, effectiveness and empowerment. Where communities help to define their landscapes, including as lccas, there is a good chance that these can be managed sustainably. Where communities are disempowered by governance models that exclude them, neither conservation nor equity is served. There is certainly a role for government-led approaches to landscape protection and management (witness the success of many category V protected areas that were declared and are today run by national or local governments), but even in these cases the support and engagement of the relevant communities are crucial. Many techniques have been developed to help communities and practitioners to identify, engage with and manage landscapes through time. Some come from the planners' toolbox, such as legal measures, zoning, incentives, regulations and other land use planning techniques. Although not appropriate in every situation, these techniques are often necessary to resolve conflicts and determine the allocation of resources. Other processes, such as mapping, demarcation and self-reflection on the evolving significance of landscapes through time, help communities to document and illustrate their relationship with the land and the natural resources, to articulate their concerns, to demonstrate their customary rights, and to establish concrete dialogue with governments and others.

States generally use maps as basic tools in top-down planning, regulating and controlling. Mapping, however, can also be used to empower communities from below and is potentially much more than just a way to describe a landscape and its functions. When mapping and planning processes exclude marginalized groups, they tend to reproduce and reinforce dominant production systems and power relations. Conversely, effective participatory processes enable communities to describe their interaction with the landscape, strengthen customary governance systems and advance the cause of social equity. Of course, not all participatory processes and mapping work in the same way, and continuity and quality of engagement appear as important conditions for their success.

All sorts of governance arrangements can be strengthened through collaboration among and between local governmental agencies and local citizens' organizations. Self-assessments of each community's environmental, social and economic situation (with or without the assistance of technical experts and Ngos) can lead to new awareness and commitment to improving land manage-

ment. Local Gis maps and land use recommendations developed by each community can be supplemented by cross-site visits with other communities, fostering an understanding of the larger landscape and the consequences of biological and social connectivity.

Community rules for land, water and forest utilisation, hunting regulations and citizens' organizations, along with mechanisms for conflict management, can lead to effective self-regulation at community level. In general, it is more effective to develop local initiatives and up-scale these to a landscape area, rather than to resort to top-down landscape management plans. Such 'endogenous up-scaling' helps to reinforce commitment to environmental work at the municipal level; it can also strengthen citizens' groups who are seeking resources for conservation activities. Ngos do best when they support traditional communities to devise their own local rules and monitor their results, and then, based on this evidence, lobby for improved national policies, harmonizing customary and statutory arrangements.

In other words, generating solutions from below appears much more effective than attempting to impose them. For instance, the time-tested practice of seasonally mobile use of pasture has proved more ecologically, socially and economically sustainable than forced sedentarisation, a top-down policy, too often based on a misunderstanding of the conditions of pasture ecosystems.

While the concept of 'landscape planning' is widely used in some circles and has been adopted in the EIC to describe the conscious shaping of new landscapes or restoration of existing ones, it does raise a difficult question: if landscape is the result of the interaction between people, nature and a variety of forces can only be partially brought under peoples' control, can we truly plan a landscape? Could those 'plans' just be another tool for governments to exercise hegemony over their people?

In most lived-in landscapes we can at best 'bend and shape' the forces that affect landscape through time, and especially so when such forces originate outside the landscapes that they impact upon. Plans need to be sufficiently flexible and adaptable to reflect this reality. Climate change, pollution originating upstream in a river basin, laws limiting the rights of migratory pastoralists, 'development' interventions, imposed agricultural policies and other outside forces can undermine the ability of local communities to maintain the balance they developed over time in their customary ways of relating to land and natural resources. These forces affect people who, in turn, affect the landscape in dramatic and often adverse ways. When mechanisms or processes exist that allow communities to resist, influence or negotiate with such forces in flexible and self-adjusting ways, success is more likely in both conservation and livelihood terms.

This may be achieved through collaborative leadership and well connected and reactive networks at various

levels. It is in this sense that we can say that a landscape ends up reflecting the quality of its governance and its capacity to respond to change in positive and constructive ways.

Communities need to be able to engage in dynamic, responsive planning. For that, the specifics of governance systems need to address such questions as 'Who plans for whom?'

Is there transparency? Is there room for learning and adaptation? These are much more important than mere technical excellence in landscape plans. There may be conflicting perspectives about what the landscape is and can/should become, and often there exist sharp power differentials among the actors backing such perspectives. To counter this, a good understanding of local history, including a history of the relationship between people and ecosystems, can help to establish an equitable (rather than equal) share of governance entitlements.

Process facilitation at the landscape level may be necessary to help define issues and negotiate decisions among actors with different powers and influence. The process of planning (mapping, demarcating, discussing, thinking together, facilitating a fair interaction among actors with different powers, managing conflicts and developing a consensus on a common desired future and ways to attain it) seems even more critically important than its results, including flawless 'plans'!

#### Conclusion

lucn's heartland has been in species and protected areas and—because of a combination of conscious choice, the inherent difficulties of change and inertia—is likely to remain there. Yet, the wider landscape is extremely important to the pursuit of lucn's vision of "a just world that values and conserves nature". Fortunately, there are many powerful examples of people and nature intimately linked across broad swathes of landscape and a wealth of customary experiences in adaptive landscape governance and management. A central message in relation to the landscape approach is the following: conservation of nature depends in large part on respecting and supporting those communities who live in the landscape, sustainably use its resources and accumulate meaningful experience by taking daily decisions about it. Today, the need for this is all the greater because of climate change and other unprecedented rates of global change. The livelihoods, cultural and spiritual bonds that link specific communities to specific units of land and natural resources, the tangible and intangible cultural heritage that they recognise there, and the care and ingenuity that communities can offer in terms of governance and management—all are crucial for the resilience of thriving, dynamic landscapes and the conservation of the biodiversity that they harbour. Embracing traditional knowledge and institutions, as well as supporting their adaptive evolution, making good use of new tools and engaging in empowering processes are all indispensable components of caring for our landscapes.

## European landscape policies

*Angioletta Voghera*

The European landscape convention (Elc, Coe 2000) has been ratified by 30 member countries of the Council of Europe (by 21 member countries of the Eu). The Elc stimulates development of a set of integrated landscape protection, planning and management policies as a framework embracing the life of the populations, an expression of identity and diversity, a resource for sustainable development. It introduces a pan-European reference framework for actions aimed at: basing recognition of identity and landscape values on the populations; constructing new values, moving from the restriction of significant sites to participation of local municipalities in valorising all types of landscapes; integrating landscape valorisation in territorial, economic and social policies.

The innovative scope of the Elc is however hampered by the absence of a Eu landscape policy which, today, is the major aspect that undermines its application. In fact, at the moment, the Eu is not competent for landscape matters. In the absence of clear reference parameters, the landscape is influenced to a major extent by Community territorial policies which guide localisation of activities in the territory and generating transformations of the landscape. Community actions with more direct fall-out on the landscape include: common agricultural policies; the policy of socio-economic cohesion; transport sector policy; environmental policy; measures for energy.

Since the 1999, common agricultural policy has reflected an integrated concept of rural development, considered to be an 'instrument for establishing a coherent, long-lasting context for the socio-economic and environmental future of rural areas'. From this perspective, the landscape is deemed to be a factor development, necessary to guarantee the multi-functionality and modernisation of agricultural economy through diversification of activities.

The cohesion policy aims to monitor socio-economic imbalances that could be exasperated by completion of the single market, addressing the territory with targeted plans, actions and structural funds. The structural funds for the 2007-13 planning period are directed towards enhancing competitiveness and developing the local economy, generating long-term effects on landscapes. So far, the Eu has dedicated very little attention to these effects. The relationships between the new infrastructures, the territory and landscape are, in fact, observed considering the critical issues they generate, reflected in environmental assessments that analyse the positive effects in terms of accessibility, and their negative repercussions on the environment and the landscape.

Adopting various strategic instruments and measures, the policy for the environment, directed towards

sustainable development, focuses on management of natural resources and of biodiversity that are important landscape values (reflected mainly in directives for the protection of natural habitats and of migratory species). In fact, the VI European programme for the environment (2001, 2007) identifies measures for establishing new relationships between the environment, and government of the territory includes the landscape on the axis of 'biodiversity' actions, intended to valorise functioning of the ecological systems.

Therefore, the concept of landscape introduced by the Elc is considered only in part in Eu strategies. The Esdp (1999) expresses an innovative concept of landscape, proposing a strategy for Europe inserted in a framework of sustainability and linking the main infrastructures policies to urban development, safeguarding and managing the landscape and protecting nature and biodiversity. Considerable stress is laid on European landscapes and on the more representative and sensitive areas to be managed with integrated policies. The concept of landscape that emerges from the Ssse is undeniably interesting and pro-active as it does not simply view the landscape as something influenced by the effects and impacts generated by the policies but considers this to be the basis of a collective identity. Although a separation remains between 'natural' and 'cultural' landscapes, the dynamic vision of the landscape that seeks to weave new relationships with planning and government of the territory is interesting.

However, two scarcely integrated concepts of landscape can be observed in Community strategies:

- the landscape as an ecososaic, i.e. as the connective tissue of natural or para-natural habitats, able to promote systems of useful connections for combating the fragmentation of the landscape that threatens biodiversity (Iucn 2003).

- the 'socio-cultural' dimension of the landscape (Gambino 2008) in policies for rural development and cohesion. In accordance with the latest Unesco strategies (Iccrom 1998; Unesco 2005), these policies are considerably broadening the categories of excellent 'cultural landscapes' to also include systems able to attract tourists, investments and inhabitants.

A joint pan-European landscape policy is necessary because:

- many landscapes of European importance are the offshoot of natural and cultural processes that require transnational strategies;

- in recent years, many transformations in uses of the territory and of the landscape have been triggered by Community strategies;

- landscape policies may play a strategic role in the sustainable future of Europe.

In this light, the Eu must undertake to promote a framework of action for the landscape, starting from ratification of the Elc, in order to improve the quality of the territory through:

- wide-scale coordinated actions for the landscape de-

– fined at Community level with reference to the national and trans-border dimension;

- 'special' actions intended to address and finance protection, planning and management actions of sensitive, unstable and downgraded environments of the regions of Europe;

- the development of new synergies between community planning of policies, territorial strategies and the project of the regions and territorial communities who identify themselves in the same landscape values (bottom-up approach).



## Cultural and natural values in the Unesco sites management: the case of Sacri monti

*Claudia Cassatella*

The 'special nature reserves' of the Sacri monti of Piemonte represent an early example of alliance between nature and landscape policies. In fact, Regione Piemonte decided to set up nature reserves in the mid Seventies as an instrument for managing a network of unusual sites where monumental and landscape resource constraints seemed insufficient, on their own, to preserve and continue to sustain the special relationship between the cultural and natural assets of these spiritual paths.

The fortunate combination of architectures and works of sacred art, inserted in particular environmental contexts, on high mounts, in order to recreate a symbolic landscape for pilgrims (the geography of the Sacred land) underlies the Unesco declaration inserting the Sacri monti of Piemonte and Lombardia in the list of sites of the World heritage, classified as cultural landscape.

The resulting need for a unitary management plan for the 'serial' site has reinforced the hypothesis of setting up a single entity responsible for managing the seven protected areas. An analysis, from the renewed landscape perspective, of the results of thirty years of management as nature reserves clearly reveals the nodes of the relationship between protection and valorisation, between nature and landscape policies, between a network approach and pressure towards insularisation.

The Orta Sacro monte, a site whose scenic landscape has been famed for centuries, is an emblematic example. Monumental and landscape resource constraints, special area protection: none of these has succeeded in halting a gradual loss of quality. The management authority has now undertaken a project, drawn up by the Politecnico di Torino, specifically directed towards recovery and valorisation of landscape aspects which envisages a partial review of the management plan and also an alliance with urban planning of the territory with which the monte maintains visual, historical, environmental and functional links. Landscape planning is the ideal instrument to address these aspects, without which the individual Sacri monti, isolated within the perimeter of the protected area, could lose part of those values that make them so exceptional.

## The isola Pomposiana in the Po delta

*Raffaella Gambino*

The environmental requalification projects of the isola Pomposiana and of other two areas along the Po di Volano, fall within the Parco del delta del Po emiliano, at the Volano–Mesola–Goro 'station'. In drawing up the projects, reference was made to urban and territorial town planning and in particular to the 'Masterplan' of the Costa del delta, giving rise to exemplary problems of trans-scalarity. They faced with technical and administrative difficulties that imposed a 'limit' on adoption of an integrated approach to the problems affecting the Parco: a territorial limit, as the problems of the sensitive areas often arise outside the protected area, and an administrative limit, as the proposals should be incorporated in the Plan of the park and in the Provincial plan and agreed with the municipalities. The two limits emerged with regard to the scope of analytical and project processing that involved much broader territorial contexts than the three regulatory environments, in order to pursue requalification objectives.

The basic goals were:

- active preservation of an acknowledged 'cultural landscape' through adoption of more complex strategies compared with those referring only to natural resources;
- preservation of the historical traces of the territory and of the water presence, also revising reclamation strategies;
- recomposition of landscape contexts, re-activating their essential ingredients with new systems of relationships;
- valorisation of the natural and cultural resources that contribute to decreeing the quality and appeal of the sites.

Such objectives imply a trans-scalar vision on which to construct a non-hierarchical relationship of cooperation amongst the plurality of plans, subjects and institutions, between demands for cooperation and confusion of competencies. The project has a dynamic, flexible character, a requirement that, in the delta, is determined by precise scientific considerations regarding the importance of dynamic evolution of the environment, and which necessarily assigns a significant role to the process of assessment.

Emblematically, the project of the Isola Pomposiana highlights issues and problems, such as:

- requalification of the landscape area of the abbey, mitigating factors of downgrading in order to restore the legibility and usability of the monumental complex, in particular with regard to critical aspects of the national road 'Romea' that borders on the complex, for which two alternatives were considered: 'mitigation', consisting in laying the tunnel of the Romea in front to the abbey underground; and 'reorganisation', consisting in new va-

riant of the Romea at a distance from the complex of the abbey, with elimination of the current variant;

- re-establishment of a more acceptable land-water ratio by restoring the functionality of the local network of canals that radiate from the historic canale Galvano;
- naturalistic recovery of marginal agricultural areas through expansion of the bosco Spada and requalification of the free area of the monumental complex, in a spirit not so much of ecological 'restoration' but rather of 'simulation', intended to re-activate the signs of an extremely significant 'cultural landscape';
- valorisation of cultural assets through requalification of the area around the abbey complex with elimination of excrescences;
- re-organisation of accessibility systems, moving away vehicle parking and requalifying the 'entrances' in terms of image, services and functional connections.

ecological 'restoration' but rather of 'simulation', intended to re-activate the signs of an extremely significant 'cultural landscape';

- valorisation of cultural assets through requalification of the area around the abbey complex with elimination of excrescences;
- re-organisation of accessibility systems, moving away vehicle parking and requalifying the 'entrances' in terms of image, services and functional connections.

## Networks and planning

*Sergio Malcevski, Pier Giorgio Terzuolo,*

*Federica Thomasset*

Ecological networks comply with the requirements of the 6th Community programme on the environment and implement the programma Rete Natura 2000. Ecological networks provide a structural and functional framework for nature preservation objectives. The current distribution and surface of protected areas, Sic and Zps in Europe is not sufficient to guarantee conservation of the biodiversity and functionality of the all-round ecosystem; there is therefore a need for planning more integrated with the ecosystem and the territory at all levels (regional, provincial, local). Similarly, liaison with valuation and monitoring processes (Vas, Via, Vi) is also increasingly important.

Four ways of interpreting the ecological network:

- as an interconnected set of habitats whose biodiversity must be protected and whose primary goal is the preservation of threatened animal and vegetable species or those considered of higher priority (species-specific network);

- as a system of parks and reserves, with the aim of inserting these in a coherent action of governance and of assessing any gaps to complete the set of habitats to be protected;

- as a set of landscape units, permitting mainly aesthetic, recrea-

tional and cultural fruition, with the aim of improving amenities for citizens, according to which natural components are essential quality factors;

- as a polyvalent ecosystem scenario, supporting sustainable development, the aim of which is to guarantee the functionality of the bio-geochemical flows essential to offset the loss of biodiversity, an unjustified increase in hydrogeological risks and undue losses of primary ecological functions and of ecosystem services.

This set of complementary and not alternative approaches makes it possible not only to guarantee connectivity between the natural islands where naturalistic values are threatened, but also to establish new functional ecosystem matrixes.

The concept of polyvalence of the ecological network (integration of protection of biodiversity and establishment of ecosystem services) imposes the need for a strategy able to involve several sectors of governance and establishes the relationship between ecological networks and planning as a priority topic.

The Regione Piemonte has mandated the drawing up of an integrated strategic project 'Regional environmental valorisation network' (Revn). The main brief of the project is the construction of the Regional ecological network (Ren) integrated in much broader networks of valorisation of culture and fruition, according to a flexible trans-scalar approach, to be implemented with co-planning policies. The project identifies three integrated

networks:

– the ecological network (En), consisting of main nodes (areas rich in natural habitats representative of the biodiversity of the region) and secondary nodes; of a system of connections, identified according to assessments of connectivity, value, criticalities and structure of the eco-mosaics and of the conditions of the hydrographical network. Where connectivity is more at risk, stepping stones (temporary refuges for a species with a good level of mobility) and buffer zones, to offset any pressures or to increase natural dispersion potential, are identified.

– the cultural network (Cn), consisting of a system of cultural nodes, connectable to each other, that comprises both the assets of historical-cultural interest and elements of the enclosed landscape, as well as the set of equipment and amenities for their valorisation and networking. Twelve possible systems of valorisation are identified based on the specificity of the territories, the human capital present, its ability to cooperate, planned development strategies, but, above all, according to valorisation projects already partly activated and tied to local community development; to coordinate services and stakeholders, in order to structure access to the various systems of the Revn (such as centres for linkage of tourist circuits, access points to the natural areas and panoramic viewpoints) connected by a set of paths, trails, greenways, 'green' corridors. They are also intended to restore the quality of the interested landscapes.

An integral interpretation of the three networks highlights situations where it is necessary to proceed with 'specific projects integrated at local level' such as contexts of the ecological nodes, 'riparian contexts', periurban contexts and so on.

## Conservation and development in coastal protected landscapes\*

*Emma Salizzoni*

The challenges thrown up by the dual concept of conservation-development are extremely evident along coastal areas: excellent environmental and landscape values are in fact accompanied by a high level of anthropic pressure which accelerates their transformation, generating critical environmental, landscape and socio-economic issues. Despite the urgent need for protection, only a limited area along the European coast is effectively protected. In particular, category V protected areas (Protected landscapes-seascapes, IUCN classification system) are few: an incongruous shortcoming since the management approach that characterizes this type of protected area specifically focuses on integration of conservation and socio-economic development objectives and is therefore particularly suited to the coastal environment.

Examining two cases of Mediterranean protected landscapes-seascapes, the Parc naturel régional de la Narbonnaise en Méditerranée (France, Languedoc-Roussillon) and the Parque natural de la Albufera de Valencia (Spain, comunidad Valenciana), provides an interesting opportunity to analyse some of the main critical aspects of the Mediterranean coastal area.

Coast and hinterland. The imbalance between coast and hinterland is a typical phenomenon of Mediterranean environments, characterised by densely populated coastal areas, with a flourishing economy, and less dynamic hinterland, with a low land use density. The same dichotomy also applies to the two parks analysed and can be ascribed to the development of an intense seaside resort type tourist economy which, on the one hand, decreases the liveliness of coastal resorts and intense urbanization of the coastline and, on the other, the economic stagnation of internal areas (because of a 'move towards the sea' of forces and capital connected to agricultural activities in favour of more profitable tourist activities) and degradation of the hinterland due to the abandonment of cultivated land. Similar processes also reflect the relationship between 'new' and 'traditional' uses, particularly critical inside Protected landscapes, that are specifically established to preserve the landscape as moulded by traditional uses, the survival of which is now at risk.

Along the coastal area: the urban continuum. The intense economic and land use development that has characterised the Mediterranean coast in the last decades has generated a gradual coastal artificialisation, contributing to create a barrier between land and sea. The two parks analysed are also affected by these trends and the phenomenon is particularly evident in the Park of the Albufera, characterised by a long, urbanized coastline, with consequences on both the environment and landscape.

Land and sea. The relationship between terrestrial and marine environments is of crucial importance in all coastal areas. In the case of the two parks, the land-sea relationship is particularly significant due to the presence of Wetlands of international importance (the ponds of the Narbonnaise and the lake of the Albufera). The environmental and landscape quality of these areas, connected to the sea by canals, and the related associated activities (mainly fishing) depend strictly on land-sea hydraulic and ecological interchanges.

Protected area and context: the urban pressure. Although the issue of the relation between protected area and context affects all protected areas, it is particularly significant in the coastal environment due to the exceptional anthropic pressure exerted. The two parks are affected by problems tied to the nearby urban centres of Valencia and Narbonne, which generate tourist flows and real estate market pressures.

The two Protected landscapes propose strategies and actions for sustainable development of the coastal area, integrating environment and landscape conservation and socio-economic development objectives. In particular, to 'bridge' the coast-hinterland gap, restoration of the economic balance of the two areas is proposed, giving new life to agricultural activities and proposing new tourism models, spread all over the protected area. Both parks adopt measures to restrict intense coastal urbanization, while integrated land-sea management is afforded in particular by supervising the delicate balance between the wetland and sea environment. Lastly, the two parks, from the perspective ratified at the last IUCN World park congress (Durban 2003, Benefits beyond boundaries) measure up to the pressures of the context, extending their actions to this rather than excluding it.

\* Images processed by Sergio Bongiovanni with Ced Ppn. Sources: Live search maps, © 2007 Microsoft; Parque natural de la Albufera de Valencia; Parc naturel régional de la Narbonnaise en Méditerranée.

## Territorial strategies for nature and landscape: the Turin Corona verde project

*Paolo Castelnovi*

Territorial governance policies, dedicated traditionally more to town planning aspects, have recently revealed increasing attention to new criteria and objectives. The essential role of principles such as sustainability (environmental, social and cultural) or awareness of environment risks is now widely acknowledged also in the management of urban development, imposing compliance with the European landscape convention and directives for the protection of biodiversity and conservation of nature.

Attention is now centred on the effects of the intense transformation processes that have impacted metropolitan areas, undermining both environmental continuity and the feeling of identity that is consolidated only in stable landscapes recognised daily by their inhabitants. Open spaces, where the differentiated aspects of history and local identities, that are gradually being lost in the peripheral areas of the city, are still legible, assume an important role in such a situation. These areas, neglected so far as considered marginal compared with urban development processes, have now become few and far between, due to their relative integrity. Of these, protected areas play a strategic role as they are best able to preserve still available fragments of naturalness and their management is not oriented only towards the urban development.

The Corona verde project (Cvp), a strategic instrument of landscape and environment qualification policies in the metropolitan areas of Turin, has been launched by Regione Piemonte in order to address the above issues. The Cvp is based on measures that involve the entire territory, starting from open and less urbanised parts and in particular parks, which form an exceptional set of sites of environmental quality and historic worth.

In fact, the name, Corona verde, expresses the intention of combining the image of the Corona di delitie (the ring of Savoy residences around Turin) with the concept of 'Green belt', strongly mooted by 20th century European town planning.

The project has involved innovative surveys that have permitted integrated reading of environmental and historical aspects and a socio-cultural vision of the landscape, an essential resource for the quality of life and the basis of the common feeling of local identity.

According to the survey and an all-round assessment of the driving forces involved, a set of general objectives has emerged:

- reduction of eco-system and territorial fragmentation and of the effects of insularisation and the consequent containment of urban and infrastructural dispersion;
- reinforcement of the level of diffused naturalness and

construction of an 'environmental infrastructure' network;

- qualification of rural space, with policies that, in addition to reinforcing the level of naturalness in agricultural areas, restore and maintain a long-lasting model of use of the territory;

- valorisation of cultural and landscape assets and of local identities, with measures directed towards reducing the effects of banalisation of the suburbs.

In 2007, after an initial phase of specific, singular measures, a general guidance Scheme has been drawn up in order to provide:

- a cognitive-assessment framework that integrates environmental, historic and landscape aspects;

- an interdisciplinary interpretative framework that highlights the structuring factors to be preserved and critical factors on which priority action is required;

- a strategic framework with a guiding vision, based on scenarios, and integrated design measures to be inserted in public plans and programmes and to be agreed with private operators;

- ad hoc management and assessment criteria of the feasibility of the measures and of the forms of cooperation and participation.

Two levels of intervention have been defined: a general level on topics of regional interest and a second level that takes into account local interests, pressures and resources.

This has resulted in a spatial sub-division of the strategies, forming a rose of 16 'petals' around Turin, that considers the specific aspects of strategic measures, making it possible to put forward proposals based on a differentiated and local assessment of the general project.

In conclusion, the Pcv proposes guidelines for a strategy based on three operating instruments:

- an all-round programme managed by the Region that aims to reduce fragmentation, to reinforce naturalness, the networks of use and the general image of the Cv, also through specific and special projects;

- a coherent frame of general rule for the protection of open spaces, of accesses and resources, to be inserted in ordinary planning;

- a set of valorisation and local application programmes and projects, to be agreed between the Region and associated local authorities.

## Parks and landscapes in Europe\*

*Federica Thomasset*

1. The Shaping a sustainable future programme, adopted by IUCN at the recent World conservation congress (Barcelona 2008), calls upon nature conservation policies to address the problem of 'sustainable use of resources'. The New guidelines for protected areas (Pas) classification stress the complementary nature of various management models that can contribute to forming national systems. The concept of nature is correlated with that of biodiversity, associating this to the ecosystem service functions it can carry out and to the cultural values it incorporates. The complementary nature of the values to be defended is clarified (including ethical and religious values, traditions, leisure and sustainable use of resources).

The need for diversification of the management models is stressed (opening these to joint management and involvement of the communities), criteria and assessments to mark the differences between the various management objectives are identified.

Ced Ppn research on protected areas in Europe has highlighted certain specific aspects of European Pas (more than 100 different categories): consistency (protected surface is about 18% of the total surface), capillary distribution in the territory, very diverse environmental situations and complex relationships with the territory. A paneuropean network of entities that have acquired experience, involving numerous stakeholders, creating supra-local networks (Mab, Ramsar, Unesco) in a transcalar perspective. A situation with evident imbalances compared with the rest of the world: a large swathe of Pa in category V protected landscapes (52% compared with 3% worldwide), a reduced presence of category I nature reserves and wilderness areas (5.7% of the protected surface compared with 35.6 % in the world) and of category VI areas for the sustainable use of resources (2.6% against 5.1% worldwide) and limited attention to protected marine areas.

The research draws attention to the presence of european macro-systems of Pas that cross Europe from north to south, east to west, with bands of continuity, not entirely unexpected, in territories affected by similar problems (mountain systems, coasts, major rivers, urban areas and rural territories). The policies in this sector continue to be weak. The 92/43/Eec Habitat directive represents the most important attempt to coordinate the policies of European countries in the field of conservation of nature but has been criticised for many reasons: too top-down process, a network that is not a network, an overly static vision.

The principles ratified by the European landscape convention (Elc) have influenced the world-wide debate on conservation policies, highlighting the need for a much

closer link between biological diversity and cultural diversity. On this issue, there is a lack, at European community level, of a common path able to enhance comparability of the policies, to promote deployment of policies based on the macro-systems of European space, to guide spending policies in a different direction, to promote integration of protected area policies with 'ordinary' governance of the territory and with landscape policies (Elc) such policies should also identify innovative instruments for assessing the effectiveness and fairness of the protection models (relationship between objectives and results), and pursuing a suitable costs/benefits ratio of the adopted measures.

\* Images processed by Sergio Bongiovanni with Ced Ppn.

## A territory-oriented view of nature and landscape

*Attilia Peano*

In the last 40 years, far-reaching changes have occurred in nature protection concepts, policies and practices. This change of viewpoint can be represented briefly referring to opposed concepts: those referring to the vision that has been a leading feature for more than eighty years, from setting up of the first national parks in the world, and those that have gained ground, in various stages, in recent decades. The classical model of protected area reflected a form of conservation that excluded both the population and economic uses of the territory, intended to protect natural resources without including recovery of downgraded values; the protected area was considered an island separate from the ordinary territory; setting up of the area was promoted by cultural élites, responsibility was assigned to central governments and management to specialised nature technicians. Obviously, this generalised description pushes the vision of the period to the limit, overlooking the considerable differences between different countries and different protected areas. From the 1960's, the ten-year conferences of the IUCN, also sustained by solid scientific bases on biological conservation and on ecology of the landscape and by gradual recognition of the cultural landscape, have charted various major changes in the view of protection of nature and in particular of nature parks. New issues have emerged, ranging from the regional systems of parks and protected areas to international parks, the need for planning, the relationship between protected areas and territorial context, the role of the local populations, the relationship between protection and socioeconomic development of the territory. This change of view has had far-reaching repercussions on the nature-culture and conservation-development relationship, on the very meaning of protection, pointing the way towards a decisive territorialisation of the nature conservation that entails complete refocusing of policies and practices in order to respond to a new spatial, sociocultural and economic rapport between protected areas and territory. However, this new vision, which has been a leitmotif of all European policies for the territory and the environment in the last ten years, asserting the need for integration and an inter-sector approach and assigning new responsibilities to all levels of competence of territorial governance, gives rise to considerable difficulties when attempting to translate it into planning and management practices.

As regards the landscape, at the core of the policies of the European convention, equally important changes have occurred, with extension of protection to the entire territory, breakdown of actions into protection, planning and management elements, the need to involve all sector policies and the primary role attributed to populations in defining the quality objectives to be pursued. Apart

from the European convention, the broadest strategies of the Union in this area also address the territorial dimension and the landscape as factors of competitiveness and of environmental, cultural and economic development of the territory of Europe.

The need to territorialise nature and landscape policies highlights the role of planning, as a method and instrument for identifying management strategies and rules. The planning of protected areas and of the landscape has continued to gain ground also in Italy, as in most other european countries. However, a plethora of plans by levels and sectors, difficult to correlate with more firmly, entrenched ordinary territorial planning instruments, is accompanied by a gradual loss of identity and of the values of the landscapes and territories, in some cases also inside the protected natural areas. More specifically, it is the plans that do not comply with international and European guidelines according to which geographical and administrative borders must be overstepped, measures and stakeholders must be integrated, involving the populations in determining protection and development paths, in guiding local actions. As already stressed, nature, landscape and territory have been increasingly approached with visions that correlate and require their integration. Therefore, complete rethinking of the current planning apparatus would appear to be essential, also through drastic down-sizing of the instruments used, with a general reformulation on a macro and micro scale, based on the structuring of territorial configurations that integrate economic and social, functional, ecological and formal aspects. They are to be build involving many different stakeholders under the responsibility of clearly-identified institutional entities: a framework in which it is possible to correlate many practical projects of the daily landscape in order to construct different, suitable living environments in the territory.