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Il futuro dell'urbanistica e di *Urbanistica*

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## The future of town planning and *Urbanistica*

Paolo Avarello\*

Italian town planning has changed rapidly during recent years: it has confronted new themes, experimented with new instruments, techniques, and methods, and even invented new specialisms and developed a new professionalism. All to meet the new needs of 'territorial management' suiting the appropriate evolution of an increasingly complex, articulated, and diversified society. Yet 'territorial management' remains a simple application of principle for real practice is fragmented by the way the administrative system and its 'powers' are articulated, being managed in a jealously guarded manner. This means a 'subsidiary' concept is required: a global, holistic approach to solving problems, from the sharing of objectives to political action and co-operation. While planning remains the fulcrum of INU (*Istituto nazionale di urbanistica*, Italian National Town Planning Institute) interest and aspiration, it has changed profoundly in recent years, not only because of the effects of new regional laws and EU directives, but above all because of the influence of examples from other European countries, especially urban transformations. New forms of planning which transcend the Italian experience have been added to the old Italian town development plans in terms of the objectives, scale of reference, field of application, content, construction methods, as well as the selection of themes, behaviours, politics, and actions to be induced. In particular, the local development plans, inclined less towards building

regulations and concentrating more on the aims and objectives of the administration, that is, establishing the co-ordination of diverse more or less long-term public actions and leaving the responsibility of defining future actions and operations to other 'operational' instruments. Therefore, these are plans which at last consider and incorporate temporal dynamics, and so confront the uncertainty that the future holds, as well as the changes in conditions and interests that arise with the passage of time. Moreover, these are very different plans from those imposed by law from on high according to a predefined model, whose activation had to 'conform' to a rigid layout, leaving the needs of the interested administrations and their opportunities effectively unmet and missed, incurably. In contrast, the layout of the new plans is based on the evolving reality, opposing and supporting trends while maintaining useful margins of operational flexibility. 'Expert' plans that do not need to prefigure the 'future assets' in rigid detail ex ante, but interact with reality by pursuing predetermined objectives by suiting the politics, interventions, and actions to them. The exact opposite of the comforting ideological fairy tale of the (always) 'right' plan of the (always) wrong reality. Therefore, in being adapted to reality and in being able to adapt them through time, the plans are useful to the administration as they are more practical and efficient than the old plans. Lastly, these new plans dialogue with the planning system of which they are a part, and which can no longer be composed of a pyramid of power with consequent exchange of vetoes. However, instruments thus conceived open up a large space between the upline

choices and definitions and the downline practical interventions. If this space is not covered by suitable technical knowledge town plans soon return to being useless maps to hang on the wall, or else the best hypothesis is that they find a place in the 'book of dreams'. In conclusion, in the new plans, equalisations, and complex programs innovation does not need any clarification of the pros and cons for and against it, but in contrast needs to be a serious reconstruction of content and methods. Moreover, the cultural and instrumental dissolution of the old urban planning, in freeing administrations and town planners from the old ways of informal loose unconsolidated and unofficial ties and connections, forces great growth in the technical culture and resulting practice developed. A great growth which INU, through its journals and particularly through *Urbanistica*, insists on being a part of by using all the weight of its cultural tradition, conceived to be innovative.

\* President of INU.

## A new water culture. Opportunities for territorial planning

Edited by Federica Legnani and Michele Zazzi

For a few years the International Scientific Community has been witnessing a harsh debate over water resource planning and management. Such discussion has involved institutions and society, especially after evermore frequent extreme weather and climatic events that upset territory and population. In Europe the *Water Framework Directive* has certainly fueled this debate and has led to new prospects outline. The latest news report a draft legislative decree concerning "soil protection, desertification and water pollution prevention, water resource management" that sorts out measures regarding such matters. The role of central and local administrations has been redefined, basin authorities have been replaced by basin district authorities. It has not been explained though what is the relation between new territorial division of national territory in hydrographic districts and old territorial division in basins.

In this cultural context about a hundred European experts belonging to different universities, institutions and organizations, have accepted as from 2003 the invitation of *Fondación Nueva Cultura de Agua* and its President Pedro Arrojo Agudo, Professor at the University of Saragoza and winner of the Goldman Environmental Prize 2003, to help drawing up a *European Declaration for a New Water Culture*. The think tank's experts have been supported by institutions and organizations that actively participated in drawing up the Declaration, organized and supervised such activity

at a local level. Preliminary meetings have been held in Spain, France, Rumania, Italy, in order to discuss specific needs and issues and to grant specific requests from different European countries. The *European Declaration for a New Water Culture* was officially signed on 18th February 2005 in Madrid during a ceremony, sponsored by the Spanish Ministry of the Environment, gathering signatory experts, institutions and organizations, other important people in the water sector coming from several countries. This multidisciplinary document refers mainly to European water resource situation, but it also invites the European Union to take full responsibility for the rest of the world (in particular for the other countries overlooking the Mediterranean and Latin American countries) in order to promote a sustainable development model as to water resource and catchment basin management. Emphasis has been laid as well on government bodies' ability to ensure an effective use of such resources and a participatory approach of those countries, as warrant of a new universal order encouraging evergrowing democracies. In addition to the Declaration's drawing up, the EUWATER, an interdisciplinary network of European experts on water resource and catchment basin management, was created on that occasion. The Declaration gave an opportunity for those dealing with territorial and urban planning to reflect upon such issues. Among environmental policy's main goals contained in the Declaration are: attention to territorial scales' specificity, description of social organizations that have to take care of their own environment, testing new forms of coordination

between public sectorial and territorial policies. Government instruments have been given many development directions that are often antithetic and difficult to deal with. An important case that the Declaration tries to examine without taking sides is the comparison between territorial integrated planning, which is completely permeated by water issues, and requests of setting aside 'wishes' and principles that would end up being purely theoretic. In fact there is an urgent need of solving concrete problems deriving from fragmentation of the decision-making process and its tools. In order to grant successful requests contained in the Declaration we should not forget the potential contribution of the territorial planning processes that every country already has. Even if the effectiveness of those planning processes applied to water resources and catchment basins seems to be a bit overestimated, such processes are anyway great opportunities to set relationships between general policies, common goals, priority strategies, territorial actions, future scenarios. This opportunity looks even more important if we consider water, according to the Declaration, as a resource whose public use and interests at stake can be used in an innovative way. This requires, at least in Italy, a careful consultation, sharing process, concertation or negotiation between all public and private actors involved. The final result can also be included in a plan or programme, yet its processing and realization are very different to the basin's plan current prospects. Attention to participatory processes means choosing actions, which can be tailored to individual local conditions, through

implemented capacity building by governments. It seems to be an adequate solution for water resource management and decision-making related processes that involve both the participation of a high number of institutional and non-institutional individuals and a good knowledge of territorial matters, in order to increase awareness of shared information, contents and policies.

The above-mentioned contribution aims at defining the Declaration's results in relation to general applications filed by cities' and territories' governments. Pedro Arrojo Agudo explains the principles that inspired the Declaration by highlighting water ecosystems' crisis and current models' ineffectiveness of water resource management. Selected themes to face new water culture's challenges are: social and cultural building of the concept of sustainability, ethic and economic aspects of water management processes, importance of multidisciplinary scientific contribution and of participation in decision-making processes. José Esteban Castro, coordinator of the EUWATER executive Committee, investigates the necessary requirements for effective governance processes, in which local communities exercise their representation rights in order to choose the best development options. Federica Legnani and Michele Zazzi have the task to present a few investigation notes that might be useful to remark, at least in Italy, the need of a specific contribution by the planner to water resource, seen as both a resource and a territorial ecosystem. Federica Legnani analyses hydrogeological stability plans layout and water protection regional plans and their relations to

territorial and urban planning considering that, as stated in the Declaration, there is the need of overcoming sectorial approaches. Michele Zazzi introduces the hypothesis that governance policy applied to catchment basin management, can justify the importance given to planners' point of view among the multidisciplinary knowledge used in drawing up the Declaration. Some important innovations, though much-discussed, can be seen in the application of concertation and negotiation to decision-making processes regarding local basin territorial policies and actions.

## The commitment of the Scientific Community for a New Water Culture

Pedro Arrojo Agudo

The *European Declaration for a New Water Culture*, undersigned in Madrid in 2005 by a hundred experts of the European Union countries, opens with the following statement: "We live in times of crisis in which the international community must pause to reflect and decide which model of global governance we must take on board for the 21st century. We must face up to the ever worsening crisis of social and environmental unsustainability in the world. With reference to water resources, the systematic destruction and degradation of water ecosystems and aquifers has already led to dramatic social repercussions. More than one billion people with no guaranteed access to drinking water, and the breakdown of the hydraulic cycle and health of rivers, lakes and wetlands are two consequences of this crisis".

### Sustainability crisis of water ecosystems

Frequently, sustainability is considered to be an asset widely found only in developed countries, and it is generally considered that the economic development of impoverished countries necessarily implies the environmental degradation of its natural heritage and resources as an inexorable tribute to pay. Governments' irresponsibility and lack of democracy, as well as the 'free competition' policy which has been imposed by the World Trade Organization (WTO), enable those countries to pollute water without restraint. Such an approach is deceptive, unjust and unacceptable, especially as far as water is concerned. Economic advantage has turned out to be like

poisoning a population. In these developing countries, where the social and health system is more fragile, the health and life of communities depend more directly upon the good state of water ecosystems. In developed countries the issue of drinking water access has been apparently solved. Yet when we think of what we have achieved and what we have instead lost, we realize that there is something wrong. At the beginning of the Nineties serious environmental damage and economic reasons in the United States led to reassess traditional hydraulic structuralism and supplyside strategies, in order to prioritise demand management and conservation strategies. As to polluted waste, developed countries have enacted ever more restrictive regulations in the last decades, having realized that it's a matter of health. In 2000 the EU issued the *Water Framework Directive*, aiming at recovering and preserving a good ecological status of rivers, lakes and wetlands.

### Social and cultural concept of sustainability

In the definition of Brundtland Report we read as follows: "By sustainable development it is meant everything that meets the requirements of present generations without jeopardizing future generations' expectations to meet their own requirements ... but it is not written what is meant by 'future generations' requirements". We assume it is about preserving essential conditions for earth's inhabitants (climatic conditions, ozone sphere, inhabitants' health, preservation of soil and wood fertility, biodiversity, etc). There are many global values worldwide, which characterize, locally and regionally, the natural and

cultural heritage that need to be preserved for future generations.

Assessing what is important, significant or valuable with regard to places or spots, must be the result of a social building process, which has to be implemented in time through commitment and regulations, according to social sensitivity and different values involved. This sensitivity will depend on ethic and cultural prevailing principles, but also on level of information and full awareness of our actions' future consequences.

### The challenge of an interdisciplinary and participatory management

In the information transmission and knowledge spreading of values involved and of issues to be solved, experts' contribution is crucial. The scientific community must be involved in order to foster debate in society without being tolerant towards such things. Water management must stop being only civil engineering's province. It needs to become both interdisciplinary subject and civic issue. Management transparency and public access to all data is essential. This entails public institutions' structural reforms that are often controlled by technocratic and authoritarian structures, mainly sub-ordinated to ruling governments or shadow governments instead of being subordinated to a proper society. The Aarhus Convention constitutes a commitment, demanding a proactive citizen-level participation and going far beyond traditional public information process. It won't be easy, that's for sure, but the technical-scientific community must face this challenge hoping that such decision process will bring knowledge and social awareness.

### The need of a new ethical approach in water management

The World Bank and WTO policy on environmental deregulation, liberalization and privatization of public services and environmental resources, is still far from solving global issues such as social injustice, poverty, unsustainability and guaranteed access to clean drinking water. Instead it has worsened the situation of the poor communities, which is still precarious. The *European Declaration for a New Water Culture* suggests a new ethical approach by making a clear distinction between certain categories, in order to set proper priorities and management criteria. Water for life, as regards its basic role of providing survival for both human beings (individual and collectively) and all other living beings in nature, must be recognised as high-priority and guaranteed effectively from the human rights standpoint. Nevertheless the priority to be given to such matter does not explain nor does it justify the lack of financial resources. The 'tap and drinking water revolution' could take place with just 1% of the current military expenses. Water for general interest purposes, as regards its role of preserving health and social cohesion, must be ranked at a second level of priority, under responsible and socially efficient management, and related to the social rights of citizens and the general interest of society. Such right must also be brought into this section, with adequate debate and social consensus. Water for economic growth, as regards its role in legitimate economic development for production and private interest, must be recognised as a third level of priority, in connection with the individual right of all to

improve their standard of living, and must be managed efficiently, following principles of economic rationality.

### **The management of water economic value for the development**

Most water captations from rivers, lakes and water-bearing strata are not carried out because of fundamental functions nor because of life maintenance or general interest. They are carried out instead for productive activities, which cannot be regarded as of general interest nor can they be compared to human rights.

Pure economic goals must be pursued also by applying strict rational criteria based on cost recovery principles, including scarcity value of recycling as well as environmental costs.

Shortage of water for economic enrichment is not to be considered as an accident to be avoided, whatever the involved economic goods (useful and scarce). Such approach does not entail market management. The need for developing a management model that puts ethical principles first, makes market a simplistic and insensitive means to the values involved. Thus it becomes necessary to find a new and modern participative model for public management.

### **Towards a New Water Culture**

By setting out goals and prospects, the *European Declaration for a New Water Culture* wishes that the *Water Framework Directive* worked out effectively: "consider that it will promote sustainable management approaches which are in harmony with the New Water Culture required by the challenges of the 21st century".

The Declaration ends with the wish that the EU, the World Bank and the WTO, in tune with this New Water

Culture, will promote a new model of democratic globalisation based on laws and regulations that guarantee a proper and efficient universal access to drinking water and recovery as well as to water ecosystem sustainability.



## Hydrogeological stability, water protection, territorial and urban planning

Federica Legnani

Water and territory represent two inseparable elements in physical space. Their combination in fact marks out natural environment and ecosystems and defines landscapes modified by men. Yet water and territory have not been planned and managed with a unitary logic policy for a long time. As we read in the *European Declaration for a New Water Culture*, water is the essence of life. Thus nobody is allowed to ignore present and future issues concerning water management and its consequences nor to forget the context in which we live and the ecological balance of our planet. Since it has been acknowledged that the great works' policy is unsuitable for and inadequate to water resources management compared to structural intervention management, our role of planner is no longer secondary. It is clear that a sectorial approach is not inadequate and that we must consider water cycle as a whole without forgetting its link with the territory. A common and shared public interest is the groundwork for positive experiences.

### Soil protection planning

In Italy a few legislative measures have stressed in the last decades the importance of the relationship between water and soil. It has been set that watersheds, with regard to hydrogeological stability of rivers and slopes, surface and underground water quality, use of water resources, have to be planned using only one tool. Frequent environmental emergencies have remarkably speeded up the hydrogeological stability

planning. Indications from Hydrogeological Stability Plans (named Pai) have been reported in the territorial planning. It has been a hard work that required effort and commitment, but it has led (through agreements, protocols, etc.) to an interesting subsidiary coordination programme between different administrations, in order to avoid a mere transposition from scale to scale. Thus water and soil have been put back together in the map plans establishing preconditions for use compatibility development, considering also structural elements and soil fragility.

### Water protection planning

With the legislative decree no. 152/99 the Water Protection Regional Plan (named PTA) has been set up. The assignment of PTA competence to regions has been seen by many as a silly step backwards in comparison to basin planning prospects. Such competence assignment has cleared problems of a procedural or administrative nature, while it has instead worsened and slackened ecosystem logic and planning effectiveness itself. The following year the *Water Framework Directive* was issued by the European Union. It introduced the Hydrographic Districts, the main units in watershed management, that account for reference of all actions affecting water resource overall conditions. In fact, water is not a commercial product, but rather a common heritage to be preserved for its protection must be ensured by high goals and polluting emission controls. Hence a sustainable use of water resources has to be implemented through effective public participation. *Water Framework Directive* ethical, technical and social themes are pretty much the same as those on which the town planning discipline is

based. Yet the main goal is ensuring that everyone has access to safe drinking water. No other particular interests can be compared to such primary needs. The first PTA's are bodied technical papers dealing as well with the relationship with territorial planning. They are strategic plans, organized in goals, actions and deadlines aiming at both preventing and reducing pollution in vulnerable and sensitive areas, and at preserving, saving and recycling water resources, according to Region Valle d'Aosta's suggestion. To Region Piedmont PTA "is mainly a project with general and specific goals to achieve, operational criteria and adequate intervention measures". Basic conceptual differences may appear slight, but they actually are not when we face a delicate subject such as territorial planning. To Region Tuscany PTA "is mainly a support activity, that is to say an activity supporting territorial planning, sectorial planning and, in general, all sectorial policies". To Region Emilia-Romagna PTA system needs to be improved by provinces through Territorial Provincial Plans (named PTCP). To Region Sardinia PTA is meant as a different version of PTCP containing useful directions and addresses to be used in PTCP problem solving, according to the founding idea that "only through adequate intervention measures working on quantity (retrieval, availability and use) as well as on quality (dumping limits, soil exploitation control), a sustainable use of water resources can be guaranteed. Region Liguria insists on PTA's twofold goal, that is to say an important planning function and an in-depth analysis of all national and regional regulations and of all the tools in force concerning

water.

The Region Lombardy, as we read in the document's title, is an exception. The Region has worked out a special of water use and protection Programme. Such Programme "is the reference tool for bodies, authorities, public and private individuals who commit themselves to achieve good water quality standards and to start a governance action in a sector with many competences". Many Provinces are currently checking PTCP's contents as to PTA directions. Several issues, such as spotting wells' and springs' special protection zones, aquifers' vulnerability in relation to their actual condition and to their possible recovery prospects, environmental burden prevention and reduction in relation to future settlements of residential or productive activities and the correspondent assessment of water requirements reduction, are already contained in many PTCPs. PTCPs deal with the element of water also as far as landscape protection is concerned. In fact the relationship between man and water has caused many changes in natural landscape and represents a heritage made of memories and symbols, with which settled communities of a certain area identify themselves. Hence the widely spread arising sense of belonging, can be a decisive factor to overcome the reasons of many environmental policy failures, lacking in cultural and behavioral models, which require instead a strong ecologic sensitivity. PTA prove to be effective only if they establish a good relationship with both territorial and urban plans. In territorial and urban plans drawing up it is even more important to take into consideration that there is a close link between use of

resources and environmental protection. Thus water requirements are to be considered as changeable elements and not as requirements to be met depending on town planning and development choices

### **Water resources management in urban environment**

The best outcome resulting from an effective management of our cities and towns is the structure improvement of waterworks and sewers. It is reckoned that water wastes in urban nets are about 30%. Taking the net issue in the foreground means, in a sense, going back to the very origin of town planning, thus to hydraulic engineers' technique, used in most city water systems in a time when the highest priority was ensuring clean, pure water to citizens.

Many city plans already contain normative devices to subordinate new settlements' projects to the realization of waste water purification plants and of sewer systems that separate white water from black water. First rain water treatment is remarkably important in highly populated areas.

As for PTA directions, Region Sardinia kindly invites municipalities to acknowledge PTAs as reference for urban uses and changes. Region Tuscany demands that municipalities do not increase population size in underprivileged areas and that sewer systems and purification plants are built in new residential and productive settlements. Region Lombardy suggests that building regulations should contain directions for drinking water saving, while Region Piedmont's PTA contains a regulation to control city plans' hydrogeological and environmental influence.



## Sustainability and policy innovation in water management

José Esteban Castro

It is increasingly recognized that the reasons for the global 'water crisis' are not merely technical or economic-financial as it is often argued, and that understanding and successfully tackling the problem requires the consideration of social, political, and institutional factors. At the global scale, this has prompted renewed commitments from the international community such as the Millennium Development Goals (MDGs). However, despite these laudable formal commitments there is an increasing recognition that achieving these goals may not be possible unless radical decisions are taken, both in developed and developing countries. In short, the global 'water crisis' is mainly a crisis of water governance.

### A fragile consensus

In this connection, there is a broad consensus about the need for effective water governance, based on active citizenship and participation, to achieve the goals of fairness and sustainability in the management of aquatic ecosystems and water services. However, this is a very fragile consensus because it has been built on the assumption that there is a shared understanding of the meaning and implications of 'governance', which in fact does not exist. In practice, the process of governance results from the ongoing confrontation between rival political projects, defended by rival actors. Governance results from the interaction between the key power holders, the state, large businesses, political parties, civil and other organizations representing sectoral interests (e.g. workers'

unions, religious organizations, peasant movements, etc.), international agencies (e.g. international financial institutions and other agents of the process of 'global governance'), and other relevant actors. However, the process of governance is often presented in the official literature as being the result of a balanced partnership between equals, neglecting the fact that there exist fundamental asymmetries of power and knowledge between the actors which determine the characteristics and direction of the overall process. These contradictions between confronting intellectual and political frameworks underscore much of the institutional and political transformations undergone in the water-related fields of activity. Uncovering the intellectual roots of the governance models being designed and implemented is a crucial component of any discussion that aims to make a meaningful contribution to the problem.

### Contradictions of governance

These caveats of the definition of 'governance' have been identified and form part of the wide-ranging debates taking place around the world. However, the evidence gathered in our research suggests that the prevailing practices of governance continue to alienate and exclude 'civil society' rather than fostering meaningful partnerships. Although officially most water policy programmes acknowledge the multipolar character of governance and the need for a balanced interaction of state, market forces, and citizens, in practice these policies tend to justify the pre-eminence of market competition to the neglect of democratic control and civil society participation. Thus, implementing market mechanisms to manage

complex aquatic ecosystems or privatizing water and sanitation services have become main drivers of water policy worldwide. Moreover, although most policy documents highlight the importance of citizen participation in practice the system aims at limiting people's involvement to their role of consumers, and 'participation' often means 'willingness to accept' decisions already taken with little or no consultation. This is a crucial problem, because good governance and the exercise of substantive citizenship rights imply social participation and control over the decision-making process, in our case, decisions about how aquatic ecosystems and essential water services are to be governed, by whom, and for whom.

Moreover, though water governance is closely linked with issues of overall societal governance, the interrelationship between the two can adopt very different forms. For instance, a democratic and participatory system of governance at the national level does not guarantee democratic governance of water or ecological processes. Also, sound and efficient water management systems can be perfectly developed and sustained in the context of highly authoritarian and undemocratic governance systems. Therefore, the consensus around adopting democratic, 'good governance' water practices is not the result of an empirically proven model, but is rather derived from a complex array of factors including normative preferences and social struggles for the democratization of decision-making processes.

### Opening the debate

Achieving the goals of the international community in relation to water cannot be

achieved by blurring the existing confrontations between competing understandings of what governance means or how it works. Contrariwise, we believe that there is a need for open debate to uncover the underlying confrontations between social actors defending rival sets of ends, values, and means in relation to water governance. However, these confrontations do not happen in the vacuum and are rather framed by structural conditions. The actors of the governance complex constitute a highly asymmetric and evolving configuration of power and knowledge holders. In relation to water, this is expressed in concrete policy decisions, such as constitutional reforms to change the status of water from public to private good or institutional innovations to create market-based systems of water rights. These institutional developments are grounded on certain values and aim to achieve specific objectives which often express the interests of particular economic and political actors, even when they are presented as reflecting the 'general interest' of the citizenry. Summing up, fostering conditions of 'good governance' is essential for enabling the development of the innovative policies and institutional arrangements needed to achieve the goals of the international community in relation to water sustainability and equality. Achieving these goals requires the development of a social force that in matters of satisfying essential human needs such as water and sanitation, food security, or environmental and public health is still weak and largely underdeveloped, even in the wealthiest countries. In turn, developing this social force would require a very high level of balanced

coordination to overcome the asymmetries of knowledge and power that underpin the existing conditions of structural inequality. One crucial obstacle for success is that, even if the political will needed to meet the targets existed, unfortunately current mainstream water policies, which have so clearly failed to promote good governance and the exercise of substantive citizenship rights, continue to commit efforts in the implementation of programmes that are largely blind to the needs, requirements, values, opinions, and preferences of people in developing countries, especially the most disadvantaged. However, there are important lessons to be learnt from successful water policies. For instance, in relation to the crucial field of water and sanitation services, the achievement of universal coverage in developed countries around the mid twentieth century was made possible by the adoption of policy principles whereby social rights and the common good were given priority over market interests. These policies and principles were supported at the time by a wide range of social and political forces, including sectors that in other respects defended free-market liberalism but accepted that the extension of essential water services to the poorest members of society required different arrangements. It is our hypothesis that achieving success in the design and implementation of present and future water policies as those required to meet the MDGs can only be achieved through the amalgamation of a similarly broad and universalistic set of social forces, not just composed by the illuminated elites but also able to incorporate the large sectors currently excluded or marginalized.

The good news is that these processes are already taking place, however imperfect or limited they might be. Critically supporting them and contributing to their multiplication and expansion is an intensely political endeavor.

## Participation and negotiation process for water basins management

Michele Zazzi

Among the principles contained in the *European Declaration for a New Water Culture*, great importance is attached to the need of promoting innovative governance processes in water resources and water ecosystems management. According to the Declaration, the crisis of water management in institutional models has exercised great influence on the effectiveness, running and legitimation of traditional decision-making processes. Recurring lack of consensus on principles and basic values as well as difficulties in involving effectively local communities, confirm insufficient social participation in the implementation of water management policy and development process. Water management different approaches can be the spur for innovative policies that direct traditional public directives towards widespread social matters. General interest for water issues becomes thus incitement to outline new 'advertising' policies, as expression of social trend, that regulate a coalition of interests at stake. In other words, an attitude to governance and social interaction prevail in comparison to the exertion of discretionary authoritative principles. Correlation between water use and soil use, different allocation of resource exploitation rights, capital mobilization for the establishment of necessary infrastructures, a broadening meaning of the expression 'water ecosystem protection', as well as water cycle integrated management, are difficult issues that decision-makers have to face and deal with. Furthermore

conflicts arising from different uses and values, always clashing, though relating to each other, and the importance of general interest given to decisions taken are also though issues to deal with. It is also important to recognize the evident fragmentation feature of those decision-making systems concerning catchment basins and water resources. The subject of governance applied to water basins, seen as preferential space units according to which water resource territorial policies can be worked out, can justify the importance given to the planners' point of view among the multidisciplinary knowledge used in drawing up the Declaration. What is important to highlight are a few hypothesis supporting and fostering innovative processes for water basin management. Such processes witness the current transition from traditional government policies regarding environmental resources to the introduction of concertation actions and negotiation processes in policy and plans building.

### Participation and concertation action in water basin policies

An adequate and high social participation in water basin policy outline is an essential condition to implement territorial policies, marked by interaction and shared information between participants. The public sector has the task to start the participative process, yet giving proportional power shares to both stakeholders and institutional set-up involved in the social interaction, be it cooperative or conflictual, of such participative process. A first analysis of current participative process shows that most arguments support stakes and processes' democratic

nature instead of participative forms featuring territorial concertation models.

How can we put together, in a territorial concertation, a complicated tangle of water basin policies such as regulative actions, infrastructural policies, financial programs, actions taken consequent upon environmental damage and long-term preventive strategies? The first concertation model regards the interinstitutional feature of different stakeholders involved in territorial policy implementation. Elimination of conflicts between different administrations, spotting appropriate scales to outline water basin management according to subsidiarity criteria, finding stable forms of cooperation and coordination are the goals of such interaction and the hallmark of basin authorities policy.

The second concertation model regards assessing limits to soil exploitation rights. In this regard forms of equal distribution, exchange and negotiation gain importance in comparison to water protection policies, that are useful in incentive negotiations for transfer or redistributive taxation system aiming at rebalancing water protection responsibility among the different territorial communities involved. The third concertation model regards the possibility of implementing agreed policies for an environmental compatible use of water resources and a clever exploitation of water ecosystems, included in local development programs. The main application fields for territory exploitation and development include: strategies for the upgrading of basins in critical condition, property assessments of goods and activities at risk (for insurance), integration of

basin policies in territorial planning processes. Hence basin planning strategies, in order to be effective in local development concertation, need to be completely changed. Requests of basin planning protection may need to be revised, trying though to keep the balance between regulative functions, which are characteristic of every public administration, and private investments.

### Negotiation processes for water basin management

The possibility to start negotiation processes by implementing and putting into effect water basin policies is witnessed by experiences that take shape of contractual approaches in water management issues. The best examples are river contracts. They are considered as procedural tools whose criteria of public utility, economic yield, social value and environmental sustainability are given equal space in the research for effective solutions for the upgrading of a river basin. In Italy river contracts appeared for the first time as planned negotiated tools promoted by the Region of Lombardy. They are oriented to concertation and integration of basin and subbasin policies, that are supported by public and private individuals, in order to protect and improve environment and water resources and prevent them from hydraulic risks. Such procedure leads to a Framework Agreement for territorial development, aiming at water quality improvement, flood prevention and control, river banks maintenance, improving and exploiting river environment, spreading of water culture. In this regard river contracts represent, in basin planning, an alternative option to overcome issues deriving from current political and institutional set-up. They aim at fostering consensual

concertation action in the optimization of organizational and financial resources as well as at fulfilling requests of decision-making autonomy by medium government entities and social stakeholders.

Implementation of water basin territorial governance may well be fostered and facilitated through negotiation processes such as river contracts. In fact they define issues and strategies, which can be tailored to every local community's specific need. Solutions shall try to implement shared common social activities and to join regulative needs, strategies and intervention policies in decision-making processes. On the other hand participative process interaction enables us to outline a common territorial outlook on water basin management. Great importance is attached to basin upgrading functions, seen as valuable strategies, integration and assessment factors, integrated policies. A central role is played by management aspects of projects and related strategies. In fact one of the problems regarding strategic approaches is building good relations between a potentially effective instrument, which could be able to meet agreement, and a sectorial instrument, which is institutionally very strong, but often considered as an obligation imposed without previous agreement.

## From the didactic to the expert city

Paolo Avarello

Most of edition 33 of *Urbanistica* (1961) was dedicated to two things: the "Code of Urbanism" i.e. the proposal for reform discussed at the VIII National INU Congress (INU: *Istituto Nazionale di Urbanistica*, Italian National Town Planning Institute), and an article about the city of Ivrea by Roberto Olivetti. By 1959 Ivrea had finally adopted its first general town development plan. The text recounts how the approach was not casual, tending to frame the plan and town planning issues in Ivrea in a rather wider cultural conception than typically characterized town plans at that time, for they were conceived as 'simple' regulative instruments controlling construction and building projects. This limit was unaffected by the same 1942 law and the arguments surrounding this limit still affect today's institutional and cultural debate, being a limit which INU has always aimed at overcoming, including, although not only, through legislative reform. The article encompassed the history of industrialization in the valley, dominated and encouraged by Olivetti developments, underlining the close relationship between social and economic transformation and the city's growth in relation to its wider geographical context. A large amount of space in the article is dedicated to the role and function of industry in guiding civic progress, such as the way Olivetti and its special conception have left their mark on social justice, harmony, and stability, even though this has been *ante litteram* 'environmentally sustainable' for which Olivetti wants its operations to be an 'illustrative'

paradigm of quality, not only in terms of sustainable development but also regarding architecture too. Less space is reserved in the article for the plan's specific characteristics. The article only underlines the choice of discrete expansion in contrast to the trend of development around the existing city's edges, mainly exalting functional aspects, and in particular, its mobility. The methods of bringing the new planned settlement nuclei into existence are almost taken for granted, using actuation plans and 'unitary' interventions for which the city had already become a model of excellence, being an outstanding example of those found in European modernism. Even today the specific characteristics of Ivrea as an industrial city and those of its territory are rooted in the reality of the local situation. They are a territory and a city which are no longer an industrial 'colony' for they have suffered heavily from processes of de-industrialization and are now searching for new means of development. From here it was therefore necessary to start over again using a new plan to tackle a considerably different situation from that confronted in the initial stages of urban growth. Even if the term 'strategy' only usually looks to the future, all manuals teach that good strategy is founded above all on resource analysis and on local capacity. And it is exactly this that the new municipality plan concentrate on. In contrast to the 1950s, Ivrea's current relationship with its territory is no longer only a dreamed of application of principle and act of cultural goodwill. The two are now connected in an organic manner within a fairly well defined framework, which is helped by the reference PTCP

(*Piano territoriale di coordinamento provinciale*, Provincial Plan for Territorial Coordination) with which, critically, the comune plan also interacts. Furthermore, the treatment of environmental issues is no longer only a cultural corollary in anticipation of the town plan, but has become a constituent part of it. The models of the past have now been consciously abandoned. Time spent is now measured by the refusal to follow preconstructed models. Instead, specific reasoned and shared objectives are researched, together with setting up and adjusting useful practical instruments and procedures so that the objectives can be achieved. The same old traditional role of the plan ('guarantee' the local variation of an 'optimal' predefined model) is therefore overturned by constructing a real and true planning-activation process that must involve 'actors', both public and private. Therefore, without being simplistically deductive, it is a non-linear process arising out of necessity: it is suitably adaptable, reasoned, and dialectic.



## Ivrea, yesterday and tomorrow

Giuseppe Campos Venuti

Issuing a new masterplan for Ivrea on *Urbanistica* after many years is surely an event; and writing the first article has been fallen me, for the right of old age between to people who worked at the plan. I didn't stand on ceremony because I value masterplan of Ivrea very much and I was about to write my notes; but while I was examining plan materials, I read again my speech at the sitting of town council in which masterplan was adopted. Then I convinced myself those notes could be the best passage to be written, because it voices the general feeling with which all of us have worked to that plan and it explains the essential ideas. Because I think its official form, but also passionate, essential, emblematic can be efficacious also for readers of *Urbanistica*, that I hope they are interested in Ivrea masterplan, as well as for town councillors, that had still to adopted that plan. So, I decided to publish that speech. I realize, today more than yesterday, the task to draw up the new masterplan of Ivrea involves a double responsibility. Besides responsibility towards citizens and administration, we had to take the responsibility towards Italian town planning culture, for which Ivrea represents a particular historical event with no doubt. I understood it, when mayor, Fiorenzo Grijuela, asked my presence at the public debate with Francesco Rosi, on the occasion of the awarding of his honours' degree by University of Turin. The subject of the debate was the relationship between Naples of *Mani sulla città*, the unforgettable masterpiece of Rosi, and Ivrea of Adriano Olivetti, of whom my friends and I

assumed the important town planning heritage. A masterplan for Ivrea assumes a particular cultural meaning. We only may wish we were able to respect these double engagement; anyway we take the responsibility upon ourselves to explain it to public opinion and to Italian culture on influential pages of *Urbanistica*.

### Speech at town council in Ivrea, 26th April 2004

Mr mayor, Mrs and Mr councillors, while I'm beginning to speak on this ending stage of the new masterplan of Ivrea, memories of 50 years ago were milling around my mind. They regarded the period immediately afterwards Resistance movement, in which, before as student and then as young architect, I came from Rome 'on pilgrimage' to visit in Ivrea one of the rare Italian examples of modern architecture and town planning. Neighbourhood of Castellamonte and factory by Figini and Pollini, neighbourhood of Canton Vesco by Fiocchi and Nizzoli, and then the canteen by Gardella and research institute by Vittoria (very young man at that time) and nursery school by Ridolfi and primary school by Quaroni and then INAcasa neighbourhood of Bellavista by Piccinato. At that time I was one of the few active young man belonged to INU and Adriano Olivetti was the president. In those times he promoted the first step to reform the law and the town planning practice; we have not been able to pass that reform yet. If the presence of Adriano Olivetti and his business led to many projects in Ivrea, not the same success involves previous masterplans. Masterplan, drawn up by Quaroni in 1952, wasn't efficacious and only in 1959 his strategies were included

in a plan with Piccinato's intentions. These intentions were updated by Bertola in 1985, with a variant of masterplan, approved in 1991: there have been 40 years before drawing up two plans and they are too much.

Things got better for me and for my colleagues; still now, at least. I found a determined administration that was convinced to draw up the first *Documento programmatico* in 2000 and *Progetto preliminare* (that is very similar to a masterplan in Piedmont) in 2002; *Progetto definitivo*, after objections, in 2004. As president of INU, having being in office after 32 years since he was, I was no more lucky than Adriano Olivetti as regards national town planning reform; but as consulting planner, I found a public administration more determined to take the plan to an end than my masters and friends Quaroni and Piccinato.

Thanks to spur and support of the administration, we tried to bring and develop the heritage of those professional men and their projects in our plan. We can assure that heritage has been combined with the most advanced thinking of contemporary town planning. We choose urban redevelopment strategy and we refuse the rationalist growth strategy; we interpreted the strict relationship between town planning and environmental values; we organize plan process in such a way to grant always an effective implementation, knowing that now it's impossible to entrust it to a modern benefactor.

*Documento programmatico*, provided by regional law, has been used to define a real 'structure plan', the same one that Quaroni called 'idea plan', many years ago and the same one provided by the new legislative model promoted by Istituto Nazionale di

Urbanistica as starting point of planning process. After objections and revision of the plan, the vision of the city is even more clear, characterized by the main gate coming from Turin and arriving in via Jervis, surrounded by Olivetti architecture, the new gate that will arrive from the main road towards the fourth Olivetti neighbourhood to be realized in ex Montefibre area.

The project for the city presents two new gates provided by masterplan. The south gate, that opens on via Torino, designed by reorganizing urban edges along the street that goes from the main street to neighbourhood of Bellavista; and the east gate, that opens on corso Vercelli, designed by reorganizing urban edges along the street that goes from *peduncolo* towards San Michele lake. A town planning design not showed off, but clear, that doesn't refuse the relationship between city and country, but that precises the boundaries through the architecture to be projected. The objection answering process fully confirms the environmental strategy of the plan, as well as the rules that prescribe green parameters to be provided in private and public areas. The new parameters, provided by rules, concerning parks and gardens, grant a great ecologic support; they really apply the slogan "as many houses, as much green", that suggests every urban transformation has to assure a substantial growth of vegetation heritage. This new vegetation heritage will be enough to produce a quantity of oxygen indispensable to more than 3.300 new inhabitants and to absorb carbon dioxide produced by 6.000 new cars: an heritage that will be ecologically self-sufficient in respect with building growth, implemented at the same time of vegetation



bedding.

In conclusion, it seems to me right to remember once again, after this brief summery about planning strategies for Ivrea, even the innovative methodological choices, that, in spite of the regional law drafted by Astengo and still in force, make this plan completely different from previous ones.

Unfortunately, without a new regional law able to introduce the *Piano strutturale*, programmatic and not prescriptive and the *Piano operativo*, fulfilling and prescriptive, restrictions of plan concerning private destinations are still open-ended; and there is a preferential treatment in respect with real estate, of which municipality can't enjoy.

In Ivrea, even after plan revision, restrictions linked to expropriation are provided in the new masterplan, but they amounted to less than 5.000 square metres (church courtyard, school garden and the new school of Olivetti suburb) to be quickly acquired and without high charges.

Plan process managed to solve the difference of treatment between public and private uses, even without the regional law adjustment. The only possible solution consisted in perequation and compensation, in order to rescue town planning from an unbearable inequity and to grant the implementation effectiveness of the plan, as well as its total ethical nature. So, there is the planning clearness we have been waiting for many years.

Mr mayor, Mrs and Mr councillors, for all these reasons, I am pleased and proud to have taken the new masterplan of Ivrea to an end with my consulting friends, with municipal employers and with public managers to which I am very grateful. A plan that I consider one of the most

important in my life and that it is probably one of the last plan. I thank you all of you to let me do it. I'd like to wish all the best to mayor Grijuela, to town council and to all the urban community of Ivrea, with the hope they will use this plan in a good way.

## A plan for the government of territory

Federico Oliva

In Italy it's very difficult to draw up a modern, efficacious and useful plan at this moment, except in the few Regions that renewed their legislative framework. But there are some difficulties also in these Regions, because of technical and administrative culture, influenced by the old planning system, that is such radically set to interfere with the implementation of the new system. The difficulties are not concerning the implementation system of the law, but they regard times and procedures fixed by law (drawn up by Astengo): *Delibera programmatica* (February 2002), which contents were defined in the previous *Documento programmatico* (December 2000), a prevalently technical document; *Progetto preliminare* (December 2002), to which more or less 300 objections are made; *Progetto definitivo* adopted by Town Council in May 2004, and at the moment I am writing these notes, plan is on discussing at Region. For these reasons, preparation of the plan took a long time, partially shorted by continuous process of the plan, that allowed to pass important anticipation variants, such as that one concerning intermodal yard of Movicentro and, first of all, the one concerning the recycling of ex Montefibre area, the most important urban transformation of the plan. The action plan for this area was drawn up by the same consultants of masterplan as a new Olivetti neighbourhood, as a tribute to planning history of modern Ivrea. And if approval process has not come to an end yet, after more than a year that is under regional

investigation, the reason depends on the old legislative framework that provides Region passes the plan. The complex process of co-planning should grant this approval without any problems.

### From masterplan to structural plan

The delay of planning reform in Piedmont put all the population in the condition to deal with the old prescriptive system, introducing possible innovations: the attempt to emphasize the structural features of the plan. The totally prescriptive, restrictive and normative character of the old masterplan cannot be changed only by a programmatic formulation that doesn't defines property rights, as the new structural plans do. But it's possible to change the implementation system of the plan, from restriction system to a new system based on perequation and compensation, observing the rules fixed by law, as many plans, drawn up in the last 15 years, did. The general planning strategy can be emphasized by simplifying and under-lining plan choices in a design able to represent strategic contents.

In PRG of Ivrea and in particular in *Delibera programmatica* that represents the institutional start, four draft designs, originally drawn up at scale 1:10,000, pointed out the structural approach of PRG: 'Structural scheme. Synthesis' that defines in depth the indications contained in three other drawings: 'Actions for environmental system', 'Actions for infrastructural system', 'Actions for settlement system'. In the first design, the legend is concise, different from the other designs, in which legends are more explicative and detailed, typical of the structural approach of European

states, in particular RFT. These legends clearly highlight the contents of the next PRG, so that a further report is not necessary. The four legends point out also action modalities, making clear the limits of the old normative system, that associates the detailed rules to those contents and those actions, in order to realize the projects. *Delibera programmatica* resumes the original unsuccessful proposal of Astengo consisting in drawing inspiration in rationalist masterplan.

### The four gates of Ivrea

I think the 'key word' able to sum up plan philosophy and relevant to planning strategy and city relaunching can be 'accessibility'. In Ivrea, in fact, more accessibility grants a possible residential decentralization from metropolitan area of Turin, with a greater public utilities endowment and more quality of urban and territorial environment, so that competitive livability is assured. Accessibility also permits a new industrial development directed to qualified technologies, development of small and medium business and of new economies, already present, but to be strengthened, in order to overcome a difficult transition period. A better and more efficient accessibility involves the improvement of mobility system, by strengthening, at first, the existing railway line Aosta-Ivrea-Chivasso-Turin and, then, the road system that connects Ivrea with regional territory and the new railway system that would give Ivrea an important intermodal role. The new infrastructural system and the respective transformation draws a new vision of Ivrea, a new city framework based on four 'gates', four parts of the city completely renewed, as regards both infrastructural system and urban morphology, by re-

development and transformation actions: the historical 'gate' of via Jervis, the first localization of Olivetti settlements and where there will be the Montenavale tunnel opening, a new access 'gate' to the fourth Olivetti neighbourhood under construction in ex Montefibre area, in which an intermodal yard (Movicentro), integrated with railway station, will be realized; in the south a new 'gate' that opens on via Turin from the new tollgate and that involves the redevelopment of urban south fabrics consisting in new residential areas, in particular along connection street with neighbourhood of Bellavista, and careful to urban and environmental quality; in the east, a reorganizing action is provided with an urban redevelopment along corso Vercelli and along the new street that connects corso Vercelli with environmental area situated on the north of San Michele lake. The four 'gates' draw a new urban vision for the whole city, even if city maintains the general framework given by previous masterplans, also by those that weren't approved: a broad city, rich of environmental values and characterized by a polycentric system, nevertheless its restricted dimension. Besides the traditional historical fabric (part of the city included inside the ancient wall), there are the historical fabrics of Olivetti city, characterized by polarities of neighbourhood placed on the territory and public utilities zone near the former industrial activities. They are ruled by redevelopment rules, in order to define a suitable use modality with respect of local economy development and typological and architectonical features of building heritage. In the south of the ancient historical city and near ex

Olivetti industrial areas, there is the most important settlement provided by masterplan placed on ex Montefibre area; it's a new urban centrality characterized by different uses that grant, on the one hand, the economical feasibility (residence, trading), on the other, the opportunities for a possible development of new industrial activities to be integrated with the other activities in ex Olivetti factories; in this important area, plan also provides important public utilities for city development (mobility, new hospital). Because of previous building volume (area was ruled by an action plan) was excessive in respect with environmental sustainability of transformation, a part of the settlement is placed in the south of the same one, along the east ring road (SS 26), using compensation system.

In the south (San Bernardo) and in the east (corso Vercelli), masterplan provides two new 'transformation areas' for specialized industrial and handicraft-trading settlement. The first one consists in the enlargement and consolidation of the last industrial area of Olivetti, more accessible by new tollgate. The second one has the main purpose to support and strengthen trading system spread in the area characterized by the new east 'gate' of the city.

#### **Masterplan quantities between tradition and innovation**

Ivrea is a little city (24,000 inhabitants and 10,800 families; 48,650 rooms and 11,270 lodgings), but it holds an important role for surrounding territory, the east canavese; city wants to carry out this dimension, as well as the urban quality and the polycentric urban framework.

Settlement provisions are reasonable, led by concrete transformation potentialities,

by redevelopment necessity and by urban fabrics framework. The two most important strategic areas, Montefibre and Varzi, an abandoned area the first and an old industrial under-used area the second, derived from almost obliged choices. As well as the choices relevant to other transformation areas, prevalently residential areas, that are almost obliged and derived from the necessity to program urban redevelopment actions inside the new 'gates' of the city.

On the contrary, forecasts concerning completion actions are surprising and consist in almost 1,100 new rooms; but also this choice derives from a careful planning and building analysis that involves a re-classification of many areas, characterized by restricted dimensions and restrictions not in force any more.

In general, new town planning transformation in Ivrea involves, besides new industrial areas, the building of more or less 4,400 rooms, a part of them used for public building (more or less 1,000), on the basis of normative system that gives community a share of new building potentiality. A necessary datum, in order to strengthen an urban pole inside the metropolitan process that is interesting areas surrounding Turin.

As regards planning standards endowment, masterplan satisfies law endowment and provides public utilities division, emphasizing parks and gardens (300% more than the existing green).

Masterplan introduces new environmental standards, to be realized not only by public bodies, and aimed to grant an efficacious sustainability of the plan, concerning protection of irreproducible environmental resources and the regeneration of reproducible environmental resources.

## Territories of masterplan

Carlo Alberto Barbieri

The new masterplan of Ivrea is part of a program framework and territorial planning with purposes and choices, in order to give an 'added planning value' and operativeness, as well as to consider the positive effects towards PRG and finally to experiment both an innovative cooperation process between different institutional government levels and a co-planning process of structural contents.

### Co-planning a structural framework

Territorial, infrastructural and environmental framework has been defined since the start of PRG 2000. Conditionings, resources, opportunities, open problems were pointed out, in order to draw up a shared structural vision, characterized by co-planning until the end of masterplan procedure. Drawing up *Progetto preliminare* of PRG, ended in 2002, allowed to develop an institutional useful dialogue with Region and Province of Turin and to find synergies with strategic actions carried out in metropolitan area of Turin by Strategic Plan, *Torino Internazionale 2000*.

### Programming agreements from territory

Territory of Ivrea, interested by socio-economical process about industrial crisis since the end of the eighties, was impelled by necessity and opportunity to create shared strategies, concerning new local development and territorial organization. Ivrea and 123 surrounding municipalities have been promoted and developed, since 1998, the *Patto territoriale del Canavese*, that gathered relationships, decisions, alliances aimed to make social development policies clear.

*Programma di interventi ambientali* drawn up by Province of Turin (2002) brought to projects financing as defined by *Protocollo di Agenda 21*. Through this negotiation, some actions, aimed to protection and development of woodlands, of vitality and bio-diversity of ecosystem, are in progress.

### The new masterplan and over-municipal planning

Structural and operating purposes and contents of PRG 2000 update and develop purposes and contents defined by *Piano territoriale regionale* (PTR), concerning territory of Ivrea as regards Piedmont ridge of re-balance to territorial role of Ivrea as important sub-regional pole, as industrial area of regional interest, as sub-regional university pole.

As regards strategies and indications provided by *Piano territoriale di coordinamento* (PTC) of Province of Turin, choice of PRG concerns the control of residential growth aimed to settlement quality, urban fabric completion and redevelopment, urban abandoned areas transformation and re-use (ex Montefibre and ex Varzi). As regards industrial areas, masterplan strengthened the role of Ivrea as one of the "induced re-balance core" connected to the more strategic "points of systemic re-balance", in order to promote new outlines of territorial and economical system. As regards agricultural territory, soils, characterized by excellent and good productiveness, have been defined and protected, in order to increase the economical and environmental value. As concerns mobility system, PTC defines a possible layout of *dorsale Pedemontana*, as regards absent and difficult stretches: the stretch Biella-Ivrea for which an integrated use between motorway and roads system

is assumed, by overstepping Ivrea (through Montenavale tunnel, provided by the new masterplan); the stretch included between Rivarolo, metropolitan area of Turin and Pinerolese. Masterplan also defines the new outline of the important axis north-south Ivrea-Valle d'Aosta-France.

New masterplan suggests to grant possible and efficacious relationship between mobility, uses and territorial framework near the station and Movicentro. The *Piano stralcio per l'assetto idrogeologico* (PAI) of drainage area of Po (approved in 2001) proposes the object to grant a suitable security level in respect with hydraulic and hydro geological disarrangement, river areas and water system protection, land uses programming for protection and consolidation of soils, recreational uses along river areas. The more evident effect consists in the definition of a new 'area C' that follows the perimeter of the floods of 2000. The embankment upstream of Ponte Vecchio, in part under construction and in part in course of planning, involves over-municipal interests and aims to protect built-up areas.

### Structural contents and strategic purposes

*Plan territories*. During the early stages of new masterplan drawing up, integrated remarks have been developed. Structural, environmental, planning considerations were carried out, in order to define a 'territory of Ivrea', to which refer PRG choices. This territory coincides with that one included inside the municipal boundary, because of formal and legal aspects, but masterplan drawing up considered a greater and substantial dimension, as regards morphological, environmental, settlement, infrastructural elements.

Four territories have been defined. They contain macro-environments, useful for planning analysis and contents: territory of hill system surrounding 5 lakes; territory of river plain; territory of the first city; territory of modern city. Inside these territories, systems and components have been defined: settlement system; infrastructural system; environmental and agricultural system. Design and normative contents, about the four territories and the relevant systems, depend on structural contents of masterplan and they are related on strategic purposes to be developed by policies, programmes, projects and actions in the next years.

The first goal is relevant to accessibility and public utilities development; masterplan considers 'infrastructural reform' as the structural condition for territory development and redevelopment.

The second goal consists in strengthen the industrial choice, by rationalization and support of existing polarities, as well as by development of new technologies, of small-medium business, of new economies and services sector to be developed along urban Olivetti system and in abandoned areas (ex Montefibre and ex Varzi). The third goal consists in increasing environmental, settlement and public utilities system in value, by emphasizing, as regards environment, the territory of '5 lakes', the hill system territory, the river Dora Baltea territory as environmental cornerstones to be integrated with urban parks and gardens and open spaces; as regards settlement, by considering settlement system of Ivrea both as a 'city to be protected and redeveloped' (ancient and modern historical fabrics, hilly, residential, industrial

fabrics) and as a 'transformation city' (transformation areas for urban integrated settlement, for activities and public utilities).

The fourth goal, at last, consists in increasing historical, cultural, architectural, planning heritage of Modern Age in value, by a new protection of historical fabrics and open spaces and by an innovative approach for protection and redevelopment of Olivetti neighbourhood. It's important to underline as some choices of masterplan defined more structural aspects, than operating ones (see Federico Oliva passage).

*Choices for infrastructural system of mobility.*

Directions, indications and choices for mobility system assumed a structural and strategic approach and PRG 2000 defined organizing conditions and land use requirements for operating projects, such as: metropolitan strengthening of railway line Aosta-Ivrea-Chivasso-Turin; construction of Movicentro as main cloverleaf junction railway-roadway and roadway-roadway; road traffic solutions aimed to strengthen the role of Ivrea as junction of north/south and east/west roads, by the new tollgate Ivrea south, the road tunnel of Montenavale, by completion of south-east motorway towards Bollengo, by a new project of west access, by improvement of road system at north of historical centre; by improvement of intermunicipalities relationships surrounding Ivrea; by the new railway good-station in San Bernardo nearby the new turn-off Ivrea south.

*Choices for environmental system.* Ivrea is placed in a particular environmental context rich of high naturalistic value elements to be protected and improved, both by specified actions and by interaction

with Piano paesistico of Province of Turin, in order to support and develop some peculiarities: territory of 5 lakes and hilly environments are characterized by high naturalistic value; hilly environments with *Serra morenica* represent the main geomorphologic system that influenced settlement localization and defined geographic identity; ecobiotic connection system of river Dora Baltea represents the protection and value territory of river areas that connect alpine-hilly system with agricultural plain.

PRG 2000 provided the project of Dora Baltea park, that will expand from the new centrality of ex Montefibre area to other three areas towards south: equipped river park, agricultural river park, environmental recovery areas and equipment park areas.

PRG defines environmental connection networks between extra-urban naturalistic systems and urban green zones by providing ecological corridors network and by involving empty areas to be interested by different vegetables and recreational roads.

Masterplan defines, at last, agricultural territories and protection zones of built up areas, as well as the actions aimed to maintain and increase agricultural productivity and to protect agricultural landscape features. In these territories, masterplan enlivens recovery and adjustment of rural heritage and it defines different agricultural areas in order to satisfy two purposes: protection of built up areas from not consistent activities and protection of environment from urban spread.

The ecological-environmental approach assumed by PRG 2000 proposes the main mobility infrastructures have to be adapted to the environment

in such a way as to minimize their impact, in order to integrate environment and territory. Infrastructural planning represents an opportunity to experiment ecological compensation and environmental design at the same time of projecting them.



## The two historical cities of Ivrea

Paolo Galuzzi

Not all of the towns have a recent past as important as the earliest times, as regards cultural tradition, livability, architectural values. Ivrea is one of this city, thanks to the particular and extraordinary period characterizing the short century of Olivetti, that left indelible traces of urban and architectural culture of Italian modern age, beginning from the thirty years in which Adriano Olivetti worked. Therefore, it wasn't difficult to agree to the direction taken by recent plans about historical city subject, consisting in new technical and cultural remarks in order to make it emblematic.

More than thirty years ago, Italian town planning began to consider existing city redevelopment, through protection and improvement of historical centres. In order to understand better the value system of contemporary city and general values of existing city, it was necessary growth came to an end, and a new approach to historical values took significance for a strategic choice of urban redevelopment.

Definition of historical city, instead of the more traditional definition of historical centre, regards not only the historical fabrics included inside the ancient walls, but it is used probably for the only case in the world: three unitary modern and quite big neighbourhoods, built during the maximum splendour of Olivetti period, to which the extraordinary architectural, urban and environmental quality give them a unique historical value.

### The ancient historical city

The widening in space and time of town planning policies as concerns protection of historical city

involves the research of a more complex operational system than that one used only for historical centre, able to lead different levels and typologies about protection of both Medioeval, Renaissance, baroque fabrics and neoclassic fabrics, as well as modern fabrics. As regards the ancient historical city, a new analysis was carried out; it took into consideration the four factors that identify the historical-economical phases of creation and transformation of an ancient fabric: landed structure, distributive and organizing system of building units, its building and structural framework, its consistence and imagine towards public and private space. The crossing between these factors and the great historical phases of creation of the city allowed to identify main seven typological classes and four groups of special settlement models, all of them referable to the main four fabrics in which the ancient historical city has been articulated. These fabrics aim to increase the value of all the buildings belonging to urban framework and to open/built spaces.

### The modern historical city

In Ivrea, the Olivetti modern city fully belongs to the city. In fact, it represents the only case in the world as a tangible document of a unitary and manifold project event for modern city. Here, some of the most excellent examples of Italian modern architecture and town planning are present and young and less young architects, activists in modern movement, experimented architectural languages, building types and building systems, town planning frameworks, that today represent a unique cultural heritage in Europe and in the world. In numbers, modern city represents 70% of historical

city in the new plan and more or less 8% of whole urbanized territory. Industrial and polyfunctional fabrics of modern city represent almost 70% of industrial and service sector activities of the city. Residential fabrics anticipate more or less the settlement of 25% of resident population.

It is a precious heritage that, because of its extension and dimension, has to take part of transformations involving fabrics and the life of the city.

### The two dimension of protection of modern historical city

In Ivrea, the principles used for modern architecture classification allowed to relate the innovative control regarding protection and improvement of this heritage both to fabrics and to the single building, belonging to a modern fabric or block. The analysis of town planning fabric allows to increase the value of specific architectural and typological features of buildings, but also of the whole structure of urban space in which they are built by focusing on relationship between empty and built areas, public and private spaces, individual and collective zones.

As regards fabrics and neighbourhoods of Olivetti modern city, plan pursues the most suitable action modalities, proportionally to the value and quality, in order to emphasize, protect and preserve the documentary depth of modern architecture, as well as to increase the potential of recycling; plan defines the main town planning features and uses to be maintained.

The specific rules concerning 'Buildings and complexes of modern historical city' are subdivided into four different classes, on account of their architectural value and their primary uses, and they include also valuable open spaces surrounding these

buildings as well as the luxuriant vegetation of parks and gardens, typical approach of Olivetti architecture.

The open space of modern historical city represents a precious framework, important to appreciate and value the Olivetti city.

### The proposal of the Quality Charter

Town planning and building regulations relevant to historical city and, in particular, to modern city are based on Quality Charter. Three types of quality are present, with reference to the different meanings they have in Ivrea history.

Qualities concerning particular aspects of urban environment, that are morphogenetic and structural features of urban framework; particular architectural aspects, that are typological and morphological aspects, composition and uses aspects relevant to single fabric and building; particular environmental aspects, such as the characterization of open spaces, the peculiarity of sceneries and views that frame and value the city; in order to highlight the main and distinguishing features of urban identity of Ivrea, as physical and cultural basis for redevelopment project of contemporary city. Quality charter will begin to be implemented as soon as plan will be implemented and then it should be tested, integrated and corrected. The flexible characteristic of charter and of its rules will permit to follow the actions interesting the modern historical city time by time, in order to measure aims, actions policies, protection policies. A further purpose consists in giving a concrete operating reference, maybe not complete but surely clear, where qualities of transformations are appraised or valued. A manifesto aimed to an



active protection of modern  
architecture in Ivrea,  
wishing to preserve the  
indelible heritage of Adriano  
Olivetti, protecting without  
embalming it.

## Social expectations and plan

Alfredo Mela

The execution of sociological researches, carried out while *Progetto preliminare* was drawing up, was important not only to give regards to Olivetti tradition of the city; these analysis, in fact, allowed to create a complete picture of feelings socially spread, concerning socio-economical context, most important noticed problems, expectations and cares relevant to territory.

In such view, two different surveys were carried out. The first one made use of interviews to qualified witness: social operators, economical and co-operation exponents. The second one consisted in a phone inquiry made up by a set of questions directed to a sample of 802 subjects representative of population both of Ivrea and of 9 surrounding municipalities. The two surveys aimed to different, but for many aspects complementary, purposes. In fact, interviews mainly regarded issues about a general vision of socio-economical development, as well as the structural requirements of territorial framework, in according with the vision. On the contrary, survey, carried out by a set of questions, allowed to understand public opinion trend about such specific themes, with particular reference to public utilities endowment, traffic and mobility problems, action priorities.

In succession, some peculiar aspects resulted by surveys are summed up. First of all, analyzing the obtained answers, a vision about the future of the city seems to be directed towards some essential things. Development model, wished for the city and its surrounding territory, will have to be in continuity with Olivetti heritage: so, it

consists in a model in which industrial activities characterized by high technological intensity are very important, even if in a post-fordism context. On the contrary, not necessary the activities which give relief to occupational crisis (as the big telecommunication undertakings) are destined to keep on this use also in the future. Their possible removal from the city will have to be made up for small and medium business and qualified services sector, such as university and high schools. In fact, the interviewees, asked about action priorities, pointed out, besides traffic and parking subject, also the opportunity to strengthen education buildings, in order to make the city competitive on a large scale.

Such themes involve the relaunching of Ivrea as centrality towards surrounding areas; infrastructures need to be strengthened in order to make the city play an important part as 'little capital'.

In general, matters about accessibility and transports assumed great importance: necessity to develop the railway junction of Ivrea, opportunity to reduce crossing traffic, problems about inner traffic, local transit and inadequate transit in farthest neighbourhoods, introduction of traffic limitation measures inside the city.

Valuation about life conditions in periphery seems to be positive, at least with respect to the average of suburbs of industrial cities. As regards the type of wished actions, directions concerning the necessity to strengthen public utilities system predominate. In general, the risk that population ageing and social aggregation buildings shortage could be an handicap with respect to farthest neighbourhoods, even if characterized by an

acceptable quality level, is strongly felt.

As regards historical centre, the main problem, highlighted by interviews, regards the redefinition of its role as central core of the city, by promoting recovery of old fabrics, improving public spaces, granting trading uses and increasing cultural and recreation activities.

Careful towards environment is a subject mostly present in interviewees' answers. In general, the awareness the city is situated in a great value environment is clear, as well as the relationship between city and its river should be mostly emphasized, by making the banks more enjoyable and realizing foot-ways near waterways, etc.

In conclusion, even if sometimes there is a difference between inhabitants' opinion and opinions of people who live in surrounding municipalities, on the whole of the answers, the influence of residence place is quite low and it doesn't encourage divergent attitudes hardly ever.

People gravitating on Ivrea generally behave as people living in a unitary urban area, in which surrounding municipalities are not considered as territorial bodies different from the other suburbs surrounding centre of the city. Choices of plan surpasses municipality boundary and they can be interpreted as important decisions about destinies of a system that assumes the features of a micro-metropolis.

## The Plan as a program for the complexity

Elio Piroddi

In a strategic pivotal position on the so-called Gustav Line, and already wasted by land battles, the city of Cassino was literally raised to the ground in seven hours on the terrible 15th of March 1944. The same Anglo-American bombing that had practically destroyed the famous Benedictine Abbey of Monte Cassino exactly one month before.

The celebrated Abbey is one of the most visited places in Italy and was rebuilt as it was and as it had to be. But in the case of the city this did not happen. Initially it was to be rebuilt completely differently as a bland 'rationalist' area or as one of the so-called 'historical suburbs' of Rome, which were developed during Mussolini's fascist rule.

In the Reconstruction Plan (by Nicolosi) the actual urban centre took the characteristic articulated form of a letter X (via Dante and via D'Annunzio) with a system of main squares (i.e. piazzas De Gasperi, Labriola, Diaz, 14 Febbraio, Garibaldi).

The growth of the city was fairly rapid (by 1951 20,000 inhabitants had already returned in the postwar period, compared to 33,000 in 1981). The population density progressively increased during the years of the great expansion, continuing until recently, and occupying nearly all the available spaces within the current city limits.

### The city and its region

The hinterland of Cassino occupies one of the southern margins of the region of Lazio. Directly bordering on the province of Caserta, from the historical, anthropological, geographical, and economic points of view the hinterland or territory around Cassino

represents a transport corridor and is a pivotal area between Lazio and Campania Regions which looks more to the nearer city of Naples than it does to Rome.

In the demographic hierarchy its 32,762 inhabitants (2001 Census) make Cassino part of a second rank group of cities in Lazio (apart from Rome), and it is the second city of the Province of Frosinone. In an urban hierarchy which takes the range of services, companies, productive activities, and population into consideration, if the capitals of the provinces are considered as first level centres (excluding Rome which belongs to a different rank), Cassino is a second level centre.

Cassino is the leader central place for services in an area, which has 24 minor local authorities (known as communes in Italy, governed by a mayor who is assisted by a municipal/ local council) directly depending on it, composed of 120,000 inhabitants including the population of Cassino (approximately 33,000). Furthermore, Cassino is part of an area in the General Territorial Plan (in the 1980s), identified by the Regione Lazio composed of 34 communes in southern Lazio including Cassino, which is the first ranking central place for tertiary and service activity in terms of qualified personnel and companies.

### Socio-economic profile and demographic prospects

According to the only official data currently available, the 'legal population' censored in 2001 was 32,762 inhabitants that had largely remained unchanged from the 32,787 of 1991. In spite of not as yet being comparable with the population census, according to data from the census of Industry and Services in 2001 Cassino

has a working population of 12,339 (37.87% of the 'provisional' population of 32,586 inhabitants) located in 2520 Local Units (4.20 employees/Local Unit) and divided as follows: 25.71% in industry, 14.22% in commerce, 29.12% in other services, and 31% in institutions.

This data confirms that notwithstanding the weight carried by the location of (large) car industry (Fiat), Cassino is economically anything but a 'monocultural' city. Its centrality in a large area and its rank in the regional and provincial urban hierarchy provide a wide ranging spectrum in the cultural and economic fabric. Consequently, there is reason to believe that, in a 'historic' perspective, the Fiat crisis at Cassino will be overcome by a decisive strengthening of what are already the present day strengths of the city: its esteemed tertiary activities (higher education, research, rare services), its quality tourism, and its transport infrastructure.

### The Plan as a territorial offer and Programma complesso

Maturing during recent years and largely shared by town planning critics, the philosophy of the new Plan is drawn from a critical evaluation of many effective, or rather, ineffective *Piani Regolatori* (town development plans) implemented in the preceding decades and their concrete results in managing city and territory. Moreover, the example of Cassino is similar to that of many other cities, particularly those of southern Italy, and speaks volumes in terms of the town development plan largely remaining on the drawing board with the real city taking a different shape to the planned hypothesis. This was not so much due to technical inability of the authors, who were often

very prestigious people, but to a different philosophy. This philosophy is essentially founded on unlimited trust in public action, and moreover the idea that the job of the plan was to respond (à la carte and on the map) to demand for growing expansion and transformation independently from the effective availability of both the financial and technical resources of the public operator.

The city and the territory have responded to this paligenetic approach which, in this form of rigid dirigisme, has been limiting in the better cases and destructive in the worst. Particularly in central southern Italy, the response has also followed the road of illegality which is not explained and even less justified by the rigid and abstract nature of the Plan, but which has certainly been nourished by the parting and separation of the real city from the Plan. Today the operational context has profoundly changed. A complex reality must be managed in which time, the plurality of subjects and the availability of resources play a fundamental role in a complex framework where the problem is no longer physical growth but the qualification and recomposition of the city. It is no longer nor so much the meeting of primary needs that the city fulfils in the economic system (not only local) and expresses in the citizens (not only residents) as the quality of the 'offer'.

In the light of these premises the plan has been shaped by the three principles of feasibility, flexibility, and effectiveness. Feasibility means staying within the realms of reality, not restricting the territory, and creating expectations and avoiding 'waiting rights' (which are then transformed into 'vested rights') planned for unlikely developments.

Flexibility means formulating a 'territorial offer' in which it is possible for both the administrators and the developers (including the hoped for external investors) to choose the times and places of development from a range of preestablished possibilities. Effectiveness is primarily based on the possibility of passing directly from the plan to the achievement of it, avoiding the intermediate step of the detailed planning wherever the state of town planning allows this (urban centres, urbanised or built up areas, out-of-town extraurban areas with isolated detached building). But the new plan contains another factor of effectiveness, the so-called *Programmi Complessi* (Integrated Programs ex Law 179 and similar): an instrument now used in many Italian communes which, as noted by the experts, allows the traditional detailed plans to be substituted by instruments of transparent negotiation able to verify the quality and feasibility of operations immediately. Therefore, so as not to avoid the 'complexity' of these instruments, they are nowadays considered to be one of the few concrete responses to the complexity of the operational situations. This means the whole Plan is on the same level as a large-scale *programma complesso*. Lastly, the Plan has attempted to take several steps in the direction of impartial fairness, and more precisely in addressing the indifference of the owner to the choice of locations. Essentially and above all, it avoids unnecessary choices, or rather those that are better put back into the hands of private initiative, no less than the choices of future public initiative. Then after this, it involves extending the principles of equalisation and the transferability of the

development rights as far as possible. It is now fact that in modern town planning the city is planned beyond what may be considered to be the natural limits of the urban centre. This has come about because of the above mentioned diffusive phenomenon, but even more so because new growth poles are about to be located or have been located in the territory, such as universities, hospitals, low cost housing areas (PEEP), the Cassino 2 commercial centre, and transport network nodes. All this leads to the idea of an urban system composed of a great many parts, defined and integrated coherently into the network infrastructure. These parts are, firstly, composed of the actual urban centre. Secondly, there is a subsystem of 'satellites' which are essentially composed of public service areas already in existence or planned, and in part of planning initiatives based on and guided by the 'rules of the offer' predetermined by the Plan. The necessary condition for this centre and the satellites system to function lies in the efficiency of the network. The primary components of the network are the state highway Ausonia, the motorway to Sora, and the Casilina state highway, in addition to the relevant nodes: the motorway node, to be reorganised, and the absolutely crucial link between the motorway to Sora and the state highway to Casilina sud. The margins of the urban centre are defined by the system of parks: the River Rapido park, the Terme Varroniane park, the archaeological park, the park of Montecassino, and lastly the park of the 'old city' in which the traces of the old city destroyed during the Second World War can be seen and have been redesigned using available

documents and the material remains. The centre is subdivided into three areas. The first is composed of several areas of the early reconstruction which deserve to be conserved because of the urban qualities they possess, prevalently composed of public housing and including the unitary layout. The second is composed of the areas in the reconstruction Plan in which predominantly mediocre private building development has taken place on individual lots on the basis of the road network and so took place in the period immediately succeeding the first. Plan allows considerable urban and building remodelling in this area, including the increases in size. The third is composed of more recent development areas, analogous to the type in the previously mentioned area but more intensive, and now saturated so that they are no longer able to increase, in which the Plan although it provides for improvements to redesign and equipping of public spaces, only allows restructuring and maintenance work with no significant increases in size. The guiding idea in the new Plan is that the city centre can (and must) offer real opportunities for renewal. This is especially so in areas of rushed reconstruction, designated "remodelling of volumes", to replace the banal character given it by this reconstruction while maintaining the rare tracts of architectural and urban quality. The intention behind this was to give the city the chance of a second reconstruction with redesign of the style and identity of the city centre, including the architecture. The spread of the city beyond its historical-geographical limits defined by the railway,

Montecassino, and the old course of the River Rapido, in addition to its fragmentary expansion into areas outside the city limits, are now irreversible phenomena which the Plan has had to take into consideration. The new Plan has confronted this situation using a strategy essentially aimed at safeguarding the larger part of the territory that is still intact and confirming the existing legally recognised activities with appropriate flexibility. The Plan puts order into the building sprawl and also meets the persistent demand for extraurban residential development. Furthermore, a potential offer is made for areas predominantly designated for services without this predetermining new development rights. This strategy is reflected in the zoning of the Plan. The territorial coverage to be protected includes the parks and local green areas, the "Areas protected from over regulated constraints", and "Prime agricultural areas" which are areas where the dominant activity is still agriculture. In total these areas represent 56% of the surface area of the communes (approximately 4,700 out of 8,356 hectares). All the extraurban territory that remains after the above mentioned specific land use designations is agricultural land of modest fertility with more or less dense building sprawls, and is subdivided into 13 Compartments, of which 11 are 'ordinary' and 2 are 'special', with surface areas of 2,636 ha and 291 ha respectively. The regulations applied over this territory confirms the larger part of the extension of the building load in the agricultural areas provided for in the previous PRG (General town planning scheme), and also re-ordering and bringing the construction sprawl into a legal framework, as well as forming a reserve 'territorial

offer' to meet expected market demand in the future. For this reason the subdivision into compartments, in that they are composed of similarly 'homogeneous' areas in terms of landscape and real estate values, means the principle of transferability of development rights can be applied.

The boundaries of the compartments exclude the areas burdened with over regulated restraints and usually follow the preexisting natural and minor networks, that is, the structure on which the form of the territory is based. Within the compartments the plan provides for further building restraints on areas of respect for the road or which are environmentally delicate. The same development rights as in unrestrained areas are conferred on these areas, but forbidding these development rights from being used in loco although allowing them to be sold or their rights transferred.

In the ordinary compartments the areas have rights differentiated according to their belonging or to the road bands along which a tendency for settlement has already become evident, or to the rest of the areas. A road band is identified in the Plan by the name "Low density residential completion zone", excluding the important territorial and long distance roads, and including minor roads which provide access to existing residences. A width of 75 ml from the verges of the road on both sides of these road bands is earmarked for a low density completion zone (Building ratio 0.05 cum/sqm, minimum lot 3,000 sqm, height max 7 ml). The same construction regulations already in force provided for agricultural areas in the existing PRG apply to the remaining areas in the compartments, covering by far the larger part of these compartments

(Building ratio 0.03 cum/sqm corresponding to a Building Ratio of 0.01 cum/sqm, minimum lot 10,000 m<sup>2</sup>). Transferability is only allowed within each compartment subject to the tied up land use designation of the area in which the rights are granted. In addition to construction on individual lots, the Plan allows 'aggregated' construction within compartments when the operator has acquired building rights for a building surface of at least 1,600 m<sup>2</sup>. In this case and under the conditions provided for in the Technical Rules (NTA) among which is the undertaking to bear all the costs of urbanisation, a 30% increase in the construction area is provided for as an incentive to concentrate construction and safeguard the territory. In order to meet the standards, the aggregated operations are equalised to the homogeneous areas C and when building surface is over 8,000 m<sup>2</sup>, the requirement of the Detailed Plan comes into force in accordance with Regional Law 99.

In the 2 special compartments (the above mentioned 'satellites') so designated because of their periurban character and because they have better access to the primary network, the Plan makes 'rights' available to the Commune. The Commune may grant these rights to public or private operators who present proposals under the *Programmi complessi* procedure (Literary 'complex programs', a program of urban reorganisation joining private and public funds to respond to the rigidity of traditional plans), even when in competition with each other, to construct infrastructure for public services or for public use under a maximum construction ceiling varying from a surface area of

25,000 to 36,000 sqm. These initiatives will be carried out using the Detailed Plan after being drawn up by the Commune and the developer.

The building allowed in the compartments, whether individual or concentrated, is always subordinated to purposes compatible with the landscape and observance of precise regulations for public utilities (standards, assignment along road corridor, masts and masting, soil permeability).

In conclusion, the mechanism provided for the compartments avoids the formation of rights which with the passage of time become vested rights and irrevocable, and guarantees the maximum equalisation possible allowing free space for entrepreneurial initiatives on the basis of precise regulation of the game.

The Plan is thus developed as work progresses by using the same yardstick as the large-scale complex program, and assumes an interactive form which seems to be the most appropriate in responding to the current demand to transform the territory.



## A deep-felt innovation

Gianluigi Nigro

The new town development plan for Cassino (which is known as the *variante generale of the PRG* in force approved by the Regional Government in 1980 was adopted by the Commune Committee in December 2004.

It represents an attempt to make the PRG useful and to provide it with an effective technical-legal form in the absence of innovative legislation. It is a brave and generous attempt but not without risk when a plan must pass through this legal framework and technical-administrative *milieu* in order to be approved.

### Regulations for vested rights

The unbearable weight of the planning process is well known, as well as the impractical regulations of vested rights, becoming even more unbearable if these regulations are irreversible and if they are subject to taxation. It is also well known that many believe any reform of territorial government must establish town planning transformation regulations shaped for and structured to the property in an advance phase of the planning process only. This must follow private and public commitments and obligations in the operational plan, if not in the detailed plan too. But while waiting for reform to occur, the theme of the regulations, especially those concerning development of new settlements, regarding both quantitative and qualitative questions is the first to be confronted in constructing the *variante generale* of a PRG. Wherever supported legally, the new Plan for Cassino makes some interesting and innovative choices to resolve these questions. In addition to an approximate

60% reduction in the quantity, the regulations in the PRG in force for new planned expansion not as yet effected and not subject to acts aimed at developing the detailed plans, "are confirmed in time". What is meant by "are confirmed in time" is that the development rights lapse if the relevant land use allotment plans are not presented to the Commune by the interested parties within two years of the adoption of the *variante generale*, and also lapse if the agreements are not stipulated "within six months of planning permission being granted by the Commune".

Therefore, the Plan attempts to follow the road of granting development rights 'in time', stipulating conditions for their use within a limited period of time which start from the adoption of the *variante generale*.

### Treatment of the 'open' territory

On the one hand, the *variante generale* zones this territory by structuring it so as to safeguard the natural environment (Montecassino area; river, stream and water course protection strip; territory covered by forests and woods subject to reafforestation orders; areas of further hydrographic protection orders; woodland areas) and agricultural productivity (areas of prime agricultural land). On the other hand, it supports the tendency for settlement along the local road network, as well as addressing the use of development in the agricultural area and in environmental areas not subject to restraining orders. The aim here is to create 'aggregated' forms of settlement in order to reduce the risk of sprawling disjointed development. This is regulated using 'ordinary compartments'. There are eleven ordinary compartments in which

transfer of development rights is allowed, and this is also permitted between non contiguous zones or when they belong to different zones. Aggregation of development rights is awarded in cases affecting a building surface at least 1,600 sqm, which receive a bonus of 20%. In particular, in 'aggregated' developments the maximum height allowed is 10.00 ml (it is normally 7.50) with tourist-accommodation, production (excluding industry), various services, health services, culture, greenspace sport and recreational activities also being allowed. However, developments up to 8,000 sqm can be implemented directly whereas those over this ceiling must "be approved under the detailed plans".

The regulation states that in all cases the developer must put in access roads and street lighting as well as the drains and equipment for discharge and purification of 'black water' sewage and waste greywater. Furthermore, the regulation requires the project to be "provided with landscape impact evaluation".

The *variante* also identifies two 'special compartments' located to the north and to the south of the urban center, with good accessibility compared to the existing and planned greater road network within which there are different zones including expansion zones from the previous PRG in force. The *variante* grants Commune in these two special compartments additional powers over and above those for a zone to grant development rights "for the construction of public service facilities or for public use as well as relevant and complementary private structures. These structures must be instrumental in pursuing the financial-economic equilibrium of development in the public interest". The

regulation provides for a competitive tendering procedure: the Commune periodically sets a call to tender up in order to select the project "according to criteria beneficial to the public" and then choose a developer who will take on "the role of contractor, according to the law in force".

The maximum development rights 'available to the Commune' in the *variante* are 36,000 sqm in special compartment 1 and 25,000 sqm in special compartment 2.

The uses allowed for at least 60% are: services, open air markets and fairs; training; health services; institutions; culture; worship; exhibitions, congresses, and conventions; sports events; defence; technological services; and intermodal transport and freight exchanges. Up to a maximum of 40%: residential, tourism-accommodation, and commercial.

### The city center

The objective of improving urban quality in Cassino has a specific connotation. The almost total loss of the historic centre in the Second World War and the reconstruction that followed have given the heart of the city a recognisable street layout, but taken as a whole it is weak in the way the space is configured and in terms of building quality. As a result, conservation is not the main problem, and re-development in the city centre is seen as the systematic urban renewal of the existing redevelopment and as such possesses the character of a second reconstruction. Regulation of the city center by the *variante generale*, especially in the central part, articulates zoning as a function of the stratification objectives for the various parts of the settlement contained in the plan. The use of zones restores the following objectives with



immediacy: changing from typological and morphological conservation to conservation of volumes and the re-modelling of volumes. For the more suburban northern and southern parts of the center, the *variante* takes the existing planning into consideration (detailed Plans or rather PEEP low cost housing areas). This is subject to the Recovery Plan, that is: the Urban Recovery Programme, the Programme integrating a strip of existing settlement near the archaeological park, and an integrated Programme for a partly disused built up area straddling via Voltorno east of the railway station (PRINT Voltorno). Lastly, it provides for a large area of expansion to the north (Sferracavalli) reserved for the purpose of "tertiary, service, and residential integration of the urban centre", which is part of the Detailed Plan.

### Considerations on the form and content of the plan

The aims and choices of the *variante* are very clear. Firstly, to protect the main components of the natural system from manmade transformation (areas of outstanding natural beauty, hydrographic networks, woods). Secondly, it consolidates the identity of the urban center, confirming its service functions and favouring the landscaping definition of both the scale of the entire city and its parts. This involves enlargement, redevelopment, and completion of its marginal areas and the stratification, remodelling, and renewal of existing buildings in the central parts, meaning the legal amount of public space is incorporated in the building completion of neighbourhoods. Thirdly, it takes the regulations in force for 'prime' agricultural areas into consideration and confirms them. However,

these correspond to the more permissive regional laws. Fourthly, it attempts to limit settlement in areas not already built on outside the urban center and in its outlying wards which the territorial government has allowed and even favoured up to the present (strips of settlement, low cost housing areas, production zones, university, etc. planned for the only purpose of exploiting the accessibility of the existing road network infrastructure), reorienting the process of settlement outside the urban center according to two fundamental strategies which are worth examining. The primary aim is to meet any need to localise functions and activities of public interest whose impact on urban development make locating them in the consolidated city inadvisable. Locating them in two spacially strategic areas (special compartments) is favoured, being centred around a new hospital and the university, as they are easily accessible from the large road network. As explained above, the *variante* places a great many development rights at the disposal of the Commune in these locations which are to be granted via public tendering procedures to developers who tender the best solutions for the public aims stated by the Commune from time to time. The second point involves stopping the phenomenon of settlement sprawl in the rest of the commune territory (approximately 50%). This is considered to be a perverse consequence of the hypocrisy that considers the territory to be agricultural only because it is not considered to be urban as it is not subject to the continuity and compactness of use of settlement type. This introduces the above mentioned combination which provides for the transferability of rights and

incentives and rewards for aggregation.

This is content which is totally divisible and largely experimental in its regulation, and as such it not exempt from a degree of risk.

For example, if the hypothesis that aggregation is practised extensively within the 'ordinary compartments', it risks the unrestricted localisation of aggregates for mixed use in the agricultural zone, favouring an infrastructural process that however much it might be elementary, episodic, and incomplete, will create expectations of land evaluation which would presumably be satisfied in a subsequent *variante* of the plan. Since these expectations are discouraged at the origin i.e. at source, whatever new urban planning regime might be, it is worth guaranteeing the tenure and permanence of the tied up land use designation of the property resulting from the transfer of the development rights so that 'aggregates' can be formed. Something, as noted, that is legally impossible.

On the other hand, wherever the aggregates are tending to localise along the 'existing road network' they fall either partially or fully within the low density residential completion zones. This could be useful as they could make a contribution to developing function and compactness of form in the linear settlements provided for in the plan.

However, it seems that the idea of bands of linear settlement along the local road network using transferability rights and reward for aggregation to favour this trend has not been fully applied.

In addition to the risks and doubts inherent in the innovation quantum proposed by the *variante*, it seems to be the case that the general objective pursued by the *variante* in

the 'open territory' is to regulate the relevant historical contradiction (in similar contexts) between regulation based on rigid zoning, and elusive and openly abused practice. It is an innovation that, in the presence of various 'rules of the game', relies on a great deal of location flexibility. An innovation whose regulation and practice is based on considerable managerial strength in the Commune. In effect location flexibility is a fundamental criteria for the innovation introduced using the compartments. As mentioned above, the development rights are controlled by the Commune, particularly in the 'special compartments', and are applied in the public interest using a *Programmi complessi* type procedure (literally 'complex programs': a program of institutional re-organisation to respond to the rigidity of traditional plans and to join public and private investments). Here too the intention to provide developers (not only local) with ample room for manoeuvre with regard to certain rules is clear. In part these rules are established by the NTA (*Norme tecniche di attuazione*, Legal technical standards and regulations) and the others are integrated in the Commune call for tenders which publishes the competition (here too there is considerable reliance on managerial strength from the local Government). No less relevant and implicit in this mechanism is the objective of avoiding the formation of rights that in time might become vested and difficult to revoke, as has been demonstrated by the matter in question. Although the form of the plan for the 'open territories' in the special compartments provides for a combination of transferability of development rights and rewards for aggregation as well as for the competitive tendering procedure (of the *programmi complessi* type),

regarding the city center it seems that the *variante* has not gone all the way down the route of the *programmi complessi*.

For some time now many town development plans have also used similar programs to provide for action, usually to redevelop the existing city, as the *variante generale* for Cassino moreover explicitly provides for in the above mentioned case of PRINT Volturno. Why not extend this procedure to all remodelling areas and use the plan 'design' as Urban Layout in the preliminary 'programme', which in this case is already provided for in the NTA? It is true that the regulation of the *variante* provides for "the Commune ... to promote the formation of programmes ... in different zones from those indicated in the plan". But as in the case in question, this is a regulation that is difficult to apply in zones subject to regulation by direct intervention where the development rights have all already come into play. As previously mentioned, in relation to innovation based on location flexibility, the choice of the program procedure for the remodelling area should certainly have been able to count on good strong management from the Commune, perhaps even stronger than that required to obtain quality results using the mechanism of direct implementation. In conclusion, it is the author's opinion that the search for a coherent relationship between planning intentions, procedures, and operational techniques, their definition being on the level of the urban layout, should be a central theme in the discipline of urbanism and territorial planning in this historic phase. The author also feels that relationships and coherence are not defined once and for all but should be re-examined and

evaluated during the various phases involved in the planning process. In practice, research into 'coherence of phases' is not possible if the form of the plan is unique and indivisible, thereby leaving the phases and the duration of the planning process out of consideration. This is one of the specific aims of articulating the plan in a partly structural and partly operational way (in addition, of course, to instruments of implementation), which many Regions have now introduced in their own urban planning and zoning laws: taking the time planning into consideration and therefore allows the planning objectives, planning techniques, and urban layout to be related coherently throughout the various phases of the process. Since urban planning and zoning law in Lazio does not provide for this kind of articulation, it seems that in its appreciable attempt to play the game of anticipation, the *variante generale* of the Cassino PRG has suffered from this condition too.

## Seven important questions and some implied considerations

Nicolò Savarese

For many years until today, the urban planning seems to have been bewildered by the operational evidence that every day the 'field' imposes on it. To get around this situation with a certain lucidity, we should identify the problems that arise and then try to examine them more in depth in order to draw indications, both on a theoretical and on a practical level. In order to contribute and stimulate such debate, I will attempt to focus on seven questions that in my opinion are relevant to the implications and to the contradictions that may arise.

### 1. The administrative scale of the territorial governance

The local autonomy act (142/90) put a sharp end to an ongoing debate and experimentation over optimal dimension for an intermediate territorial level of governance, between Regions and Municipalities. Because of institutional and administrative properties, the role of the Provinces in the overall reform for the local autonomy was redefined, even though in many regions, especially in issues having to do with territorial planning, this act still hasn't been enforced. Nevertheless, I believe that this probably is not the cause, but rather one of the symptoms of problems at hand, that haven't been resolved, and that also show itself in other instances and forms. The Italian CSF Objective 1, 2000-2006, has in fact, in 'Integrated Territorial Projects' singled out the fundamental instrument in order to carry out the strategy for the development of Southern Italy. Nevertheless, because of the diffusion of the ITPs, for the years to come, the

issue of a more careful definition of the territorial and administrative scale of the local development will surely be in the center of southern regions attention. One could raise a question about the distinction between the economic programming and territorial planning; but the problem is not posed by the terms of territorial projection of a socio-economic program, because in an integrated project, these two dimensions are inseparable. Rather the problem regards subjects that are responsible for investment management, and fixed or variable geometry of the territorial intervention areas.

### 2. The social partnership in the planning

The problems that arise from local development show another important aspect: the agreement over the political direction on the decision-making and management level. In fact, the issues in the local development and integrated planning, shift the center of gravity in the relationship between public administration and local community, towards the bottom.

The regional legislations, give way to partnership-based decision-making process, during preliminary phases of urbanistic instrument formation. But, from this point of view, the mechanisms of citizen feedback, followed by the administrations counter-deduction, foreseen by the urban planning act (1150/42), remain much more acute in the protection of rights of citizens. In fact the main problem lies in the management of plans, which are subject to cross-pressure from interests and compromises. The problem is bound to persist until the plan management is not confronted and doesn't interact with the strategy. In a democracy based on efficient and widespread

information, the management of the plan should become permeable in respect to participative processes. The absence or scarcity of the above-mentioned permeability means that, most times, the incapacity to recognize and employ the conflicts as an intrinsic of every democratic process of planning. On the other hand, the examples from the Local Agenda 21, of CIP Urban or of *Contratti di quartiere*, constitute a collection of best practices in the field of social conflicts, which allows us to perceive, without any suspicion, different ways to execute the plan.

### 3. The coordination of spatial implications of non-urban policies

The INU National Convention on sectorial planning (Florence 2001), has formally taken note of the existence of non-urbanistic policies that influence the state of the territory through control of land-use and of some urbanistic parameters. Certain urban-planning paradoxes, that arise in that way, teach us that it is not sufficient, to only take action in various possible sectorial dimensions of planning, but that it is absolutely necessary to bring all of them together in a unique physical space, that will still be able to be defined as urban or territorial, if only the urban-planners would not renounce to claim their specificity. We should also keep in mind that, besides the functional or disciplinary attributions of professional responsibilities, we are dealing with rights of any citizen to a clear definition of rules and regulations that preside over the transformation process of a territory.

### 4. The plans and infrastructural systems

The planning of transport systems and related infrastructures has always had an important place in

civil engineering, but its true influence on urban planning is a fairly recent occurrence. A complex urban system can be represented through a nodal-based and a grid model. The central components of this model are the functional localizations and the space-time relations between them. In consequence, an urban plan that doesn't include a traffic and mobility plan is a non-plan. Nonetheless the above mentioned evidence, the birth of a new kind of sectorial planning (from the traffic plans to the current mobility plans) has not really occurred following the development of a new discipline, but rather as a consequence of incapacity of urban planners to update its technical and methodological instrumentation. Since some time we are assisting the emergence of the information society, with its revolutionary systems of communication. It has already begun to create significant impacts on relations between people, social groups, businesses, and therefore on the structure of future cities and their hinterlands. Also in this case, reflecting on the impacts and implications that this change should have on their field, the response of the urban planners, has so far been scarce and unsatisfactory.

### 5. Financial sustainability and feasibility

The financial sustainability of Italian urban planning has always been, and still remains, one of its major weakness. Since 1982, with the creation of the FIO, the territorial investments have always progressively strayed away from the ordinary/extraordinary scheme, to become more and more oriented towards a competition and prize based system. On the other hand, the EC Structural Funds in majority operate

with this logic, tying the rules for national investments to an always-growing competitiveness. In these conditions, the objectives and strategic priorities of the local administrations are changing radically and fast. What is taking place is a right market strategy, i.e. the understanding of potential competitors, and the capacity to 'sell' one's territory on the market. In other words, the urban and territorial marketing is bound to become a key partner of the planning. Furthermore, it's important to be able to recognize and take advantage of public financing programs, which means having a major availability and flexibility in the land use. In all this, the traditional urban planning risks of becoming the only true dependent variable. The problem of financial sustainability of the plans and projects, if put in conventional terms, can not be resolved, and on the other hand a plan/project that is economically unfeasible, would be unacceptable. Rather than avoid the problem, it would be more useful to discuss more in depth the concept of feasibility itself, and all the different levels on which it is laid out: on a strategic and operational level, possibly considering also completely giving up the idea of the causal and linear relationship between the plan and the projects.

## 6. Sustainability of the plans and project evaluation

In July of 2004, the Directive 2001/42/CE of the European Parliament and of the Council came into effect (on the assessment of the effects of certain plans and programmes on the environment). In reality, the Habitat Directive had already introduced the concept of evaluation for all the interventions with potentially negative impact on the environment and

species present in sites of Community importance of the European network Natura 2000. In Italy, this network currently covers 17% of the national territory and could quickly grow to 25%, after management plans have been approved. Given the reduced size of sites, it's easy to understand that a great variety of different kinds of interventions, and almost the entire national territory, will have to become subject to environmental evaluation. Although the network doesn't interfere with the systems of environmental protection of the member states, the approach for the Area Plans (as foreseen by the environment act no. 394/91) and the approach for the Management Plans (foreseen by the Habitat Directive), differ in a substantial manner. The Plans for the Natural Protected Areas in all effect are urbanistic plans and not only sectorial plans. The Management Plans, on the other hand, establish only the criteria for protection. It's important to keep in mind that the sites of Community importance are functional for specific habitats and specific species, that the management plans must maintain in a favourable conservation status. The concept of standard is replaced by performance. In effect, the principals of the urban-planning legislation become contested, which means that the authorization of interventions should be based on a thorough environmental evaluation, rather than on a correlation to a set of static and invariable parameters. The evaluation instruments and techniques, are now sufficiently developed to allow an effective and trustworthy application in the field of urban-planning and not only in the field of environmental protection.

## 7. The concept of landscape in the urban and regional plans

The issue of the Code for Cultural Assets and Landscape represents the last act of a long process that has led to a concept of 'landscape' as a cultural resource.

Regardless of the cognitive aspects, on a local level a new element emerges: affirmation of cultural identity as an engine of the economic development. Having recognized the 'historical value' of the territory as a fundamental matrix of its present framework, in this manner becomes a key imprinting factor, in any plan or project. We can see a long Italian tradition in development of 'landscape planning' that includes great names, as those of Roberto Pane and Giancarlo De Carlo. Nowadays, the link between the development and the structure of the landscape is more evident and imposing in comparison with that tradition, because the assessment of the cultural identity is not only a label of origin for local production, but an essential component of the 'economic base' of a region, so according to a theory in which the vitality and prosperity of a certain area strictly depends on the economic activities orientated towards extra-local consumer markets. The evolution of consumption towards models that are influenced by the traceability of the products (the identity of their origin), rather than the production process (the identity of a company brand), allows us to confirm that the 'economic base' of a territory consists of typical local products that are considered 'exportable'.

## Elements of a diagnosis

The questions posed here present a multitude of reciprocal links contributing to the diagnosis. There are two kinds of problems that

are typical in the current Italian context. First, a scarcity of interdisciplinary practices; and secondly, the lack of a serious national policy for the city and territory.

Above all, we can observe an always diminishing importance of the discipline itself, and that of the urban planners. Having underlined some of the roots of urban planning (deriving from architecture) we have an awareness that the paradigm of 'integrated planning' originates from 'planning by projects' in the seventies, and that both linked with the Theory of Systems that is applied to the field of regional planning. Integrated planning has to be based, in synthesis, on systemic vision of the territory and of sectorial policies. The culture of an urban-planner or architect, in the project management seems to be still important and significant, on one condition: that his role is closely related to a capacity to coordinate various disciplinary competences, that nowadays has been weakened.

On the other hand, in the complicated process of decentralization and regionalization that began in the sixties, the Italian state has not been able to conceive a framework legislation in the urban-planning field. To make things worse, in this sense and only in this sense, can we see the promulgation of national acts that have taken away very important administrative competences from the local governments, as for example the case of the act no. 183/89, that if it was rigorously applied, would transfer wide competence in the field of urban and regional planning to the 'Basin Authorities'.

In conclusion, the National Institute for Urban Planning (INU) led the way inspiring regional legislations, but their new versions show centrifugal tendencies for

the governance of a  
heritage, the territory, that  
as the cultural one,  
constitutes the fundamental  
base of our identity.



## An alternative experience

Anna Moretti

The foci we intend to deal with here are two, the road project, theme core of the treatment, and the project orientation also appearing under the title *Manuals, handbooks and good practice*.

The road project is a current topic inside the larger land project where roads are increasingly, and often dangerously, intended as strategies for development and a support to the 'diffusion' of growth (the risk is just the spread city), but also as an unescapable answer to a demand for mobility which has to be somehow regulated, a project characterised by 'multidisciplinarity'. Conversely, project orientation is a current topic in land administration, as public authorities increasingly and explicitly demand methods, techniques and tools capable of arranging into a system and exploiting their actions. But the preparation of such instruments requires a lot of simplifications/models.

### Multidisciplinarity and simplifications

*Approaches to the project.* There are different ways of approaching the road project depending on whether it is considered a longitudinal channel or an element of relational, transverse and usage integration: our option is to consider the road as a component integrated into the land system.

*Road types and scales.* Roads differ not only by scales, but also by types of land relationships, thus project orientation shall be capable of classifying and selecting road 'types' not only in relation to dimensions, roles, functions, services and performance, but also matching such elements with the contexts they cross.

*Different powers.* A variety of different figures from transport engineers up to planners, territorialists, town planners and architects acts on the road project, but project orientation shall choose to apply to a professional and a competence able to systematise all the others involved too, having skills of co-ordination in the practice and/or in study processes.

*End-users and actors/producers.* The road project includes on the one side end-users with objectives which are often in conflict, on the other actors-producers with powers highly differentiated by scale and by objects, areas and networks, thus project orientation shall urge upon processes of discussion participation, mediation of conflicts and construction of agreements by and between such figures.

*The planning of effects.* The road impact causes economic and transport advantages and often urban, environmental and use disadvantages: project orientation shall direct the designer and the process manager towards considering the various aspects, each being the object of different impacts.

### An applicative experience

The Province of Bergamo offered to the Polytechnics of Milan the opportunity to develop a research work concerning the ways of treating new and existing infrastructures and their urban and environmental surroundings; such a research work has then been transformed into an occasion for building a 'project orientation' for public authorities and has been reported in the volume *Guidance to local action; the road project in the territory*.

The elements composing the *Guidance* are intended for building a path of road design that: is highly integrated into the territory; starts from certain basic

assumptions (the objectives-principles) shared by users; is based on a working method to some extent typified, that is to say organised according to a methodological process which has to be considered, although not necessarily in a rigid order succession. The *objectives-principles* may be so summarised: building only the necessary roads; integrating roads not only into the territory for the construction of 'scenarios' related to the new infrastructures, but also with 'subjects' living in the territory and governing it; considering road multifunctionality and multiscalearity.

The *methodological processes* organised inside the *Guidance* mentioned above, may be described as follows:

1. *comparing subjects and objects.* We are dealing with considering good practices taken from national and international experiences, as to both repertoires of experienced solutions (of setting, of integration and rehabilitation), and reviews of legislative tools, regulation provisions and land and urban policies;
2. *identifying the context, knowledge and description.* We shall identify, from now on, some 'families of contexts' to which to assign, in a combined way, both the road requiring actions by type of road and the reference space, natural or settled, by type of context, and then go on with the traditional knowledge operations of analysis urban and land survey;
3. *emphasising the problems, diagnosis and interpretation of land and subjects.* Critical points may be considered as theoretical critical points, organised on the basis of transport, town planning, environmental and usage criteria;
4. *exploiting opportunities, project criteria.* The opportunities for the project may be represented both by theoretical project criteria,

intended as coordinates of objectives, methods and actions differentiated by types of 'roads/context', within which the project shall be included and by the scenarios of institutional plans, projects and programmes already operating on the territory;

5. *developing the project.* The project may be developed as an action variously linked to the physical and problematic context detected on the basis of principles, objectives and project criteria shared and also proposed in terms of alternatives intended as differentiated answers to the interests of various subjects;

6. *accompanying actions, directions for actors.* In order to contribute to the project success by putting each intervention on infrastructure in a process of rehabilitation, development, urban and land management territorialists, policies accompanying the project may be activated, to improve the efficacy and effectiveness of check lists to confirm the compliance and correctness of the actions.

*Appendix, the project book.* A list, a 'book' of applicable solutions or good practices taken from the experience and the current literature on the subject in terms of elements composing the project and of photographic repertoires of the contexts where such solutions have already been applied, has been prepared as further support to the technical aspects of the project.



## The Italian experiences: between atlas and guidelines for the road projects

Paola Pucci

Reading comparatively the Italian experiences, and also the contributions introduced, finalized to construction the working and reiterating procedures for the road projects, three declinations of the topics in reference to the finalities, approaches, results it is possible single out:

- repertoires of operational analytical-interpretative studies and road projects. They are shaped like atlas, like collection of strategies for the project, like "projects that they help to make plans", rather than like normative instruments for implementation the project (i.e. *In.fra* research *Forme insediative e infrastrutture. Procedure, criteri e metodi per il progetto*);

- sustainable planning of roads advices, like selection of important topics and issues for the infrastructure project, interpreted like an integrated plan of territory, able of dealing and integrating technical and territorial dimensions of the road infrastructure, as landscape project (i.e. Research network *Infrascape. Infrastrutture e paesaggio, indirizzi per la qualità della progettazione*);

- guidelines as an handbook, in order to supply instruments for the road projects, finalized to propose a transmissible and consensual process, general, flexible and open (since modifiable) of road infrastructure planning (i.e. *Linee guida*, Provincia di Bergamo and Regione Emilia-Romagna).

In the experiences *in itinere*, the three declinations specific finalities and ways of treatment of the topic translate, but they make also to emerge a common aim to work out instruments analytical and operational too, in shape of guidelines,

of abacuses, of project handbook, to give concreteness and practicality to the consensual infrastructure interpretation like territorial network. The urgency to construct transparent and repeatable procedures, it seems to become the operating challenge of some public administrations; they are aware of the necessity not only of guiding the infrastructure projects in order to control of the outcomes, but to value the infrastructure investments for new works, creating externalities of network and 'value added' for the territory.

In reality, many of the experiences introduced are promoted from public administrations that have started operational studies finalized to define 'consensual rules' for the infrastructure projects, being moderate itself with the topic of the guidelines, of the repertoires of best practices for the integrated road projects.

In these experiences the aim regards:

- the proposal of a iter of road planning in a position to offering solutions for the appraisal of the tracing, for the technique and economic feasibility of the road project, for the eventual measures of mitigation and compensation to implement, considering not only the road aspects, but also urban, environmental and territorial conditions of the infrastructure project;
- constructing consent on the contents, on the objects, on the attended results with an infrastructure project, which premised for the consolidation of a practical one and in order to address the consensual planning process, not only for widen the attention field, but also to increase the field of competences.

The interest for the comparison with under way experiences on the topic sends back to the possibility

to select the suitable issues and the ways of handling of the same ones this, as an important condition for the construction of rules that, in the most interesting cases, they are shaped like the proposal of a possible way-process, rather than like a fixed handbook for the road project. Many of the experiences are addressed towards the search of ways, able to turn to account a reflection:

- on the nature and on the ways in order to construct repeatable procedures like possible way, far from the aims of completeness, comprehensive or impartiality (in the sense that necessarily privileges some topics and some issues), for which the consensual process becomes central;

- on the conditions within which such experiences they can be given;

- on the shape that such experiences can assume in order to play a practical and divulged role to deal the infrastructure project as a territorial project, proposing a way from the 'open character' and with 'contingent worth', above all. In this picture, the interest it is not in 'the' handbook construction as definitive or fundamental technical guide, but rather to the cleverness of the text, in its various shapes:

- to characterize the must important topics of the road project;

- to show the shapes of their interaction, necessary in order to guarantee a multidimensional approach;
- to offer an analytical and working way, adaptable in reference both to the involved territories and subjects and to the emergent questions;

- to consent building on the contents, on the aims, on the results attended, like necessary premise for consolidation of a practical one of integrated infrastructure planning in the territory.

The diffusion and the

utilisation of the communicable text (in its possible various shapes) would be melted on its capability of being 'depotstore of experiences' and 'opened dispositive' in a position to suggesting a reiterating iter and consensual planning process.

In effects, far away from the founded and definitive handbooks, some of the Italian experiences, offers a methodology characterized by a continuous process of modernization-implementation-modification. In this way, they are useful and they will go therefore privileged those experiences that:

- they have guideline function, above all in phase of preliminary plan, because they facilitate the individualisation of the problems and they suggest new landscape interpretations;
- they concur to construct a picture of coherences at different territorial scales;
- they are introduced like alternative to often too much rigid norms, unable to speed up innovated ways;
- they supply one instrument in order to concur with the planner to search the must adapted approach, allowing the task to characterize the best solution in a determined area, rather than to represent an ideal and methodological protocol or rather than to define standard solutions for any situation;

- they are proposed in a interactive way that not search the completeness and comprehensive, but it stimulates to having an active role using the text.

## The use of guidelines abroad: Vermont case study

Marco Facchinetti

The research over international case studies many times gives the possibility to understand and to study things that in our country it is difficult to study, to create, to invent, meanwhile in other countries the same things are already in practice, due to historical, economic, cultural very complex reasons. Looking at international contexts offers many good case studies in the field of relations between infrastructural and territorial planning, above all studying the relations between roads design and territorial planning and design. Even in Italian researches and studies it is clear that road design should not be limited to road section and to the land that every road occupies with its layout: a road it is not only a system to move the highest number of people in the fastest way. The interest for environmental impacts, production of noise and pollution, the land consumption show how a road project is strictly linked to many other aspects of planning, and above all to many other dimensions, such as environmental, cultural and economical aspects.

### Two key aspects

One of the most interesting results of this research is the discovering of how the enlargement of the capacity of every road project to involve many other aspects of territorial planning is becoming every day practice in foreign countries, and how this enlargement has been codified, written, published and presented using guidelines, manuals and handbooks, the same kind of products that with many difficulties in our country is only the result of

excellent researches. Manuals and design guidelines are able to put into everyday use good practices, to create the same standards of design and planning for the whole country, helping minor contexts to learn the best lessons and to put them into practice, not only working on road layout, but also, and with more interest, managing the relations between roads system and territorial development. The countries studied by this research, and this is almost the second important key point discovered, just producing guidelines and manuals are experimenting a strong relation and a very good coordination between different levels of government. Many times, technical aspects are strongly regulated by central governments manuals and rules, giving the possibility to the administrations to put into practices, according to their own characteristics the guidelines suggested by other levels of government. Many times, in the case studied, only technical aspects are regulated by laws, deciding to coordinate the geometrical layout of roads, giving much more freedom to plan the aspects related to the relations between roads and surrounding places. In this way, one of the reason of the success of design handbooks and manuals is not only due to the good practices included and suggested but it is due to the strong and democratic relation that produced manuals.

The research shows this way at least these two interesting aspects. Road project deserves a wider field of interests, it can be much more than a simple layout for a road, if there is agreement over the idea that a road is part of a network of transportation but above all part of a territorial system. Road design should involve many more aspects, such as

environmental considerations and territorial, economical and cultural possibilities of development and transformation. Secondly, only through strong relations between all the levels of government, from State administration to local municipalities, able to involve local actors and the most important leader of economic development, it is possible to give sense to what is included in the manuals. Otherwise, without a strong link and a useful cooperation it is hard to put into practice every guideline. Italian practice knows how difficult is to change the rigid national Road code, or how many differences there are between national decision and local contexts ability to put them into practice.

### Vermont Interstate Interchange Design Guidelines

Intended for use by municipalities, land developers and public officials, this guidebook promotes ways to support growth at interchanges that is consistent with state land use goals and other state policy initiatives. It was created as a resource for understanding growth patterns by visualizing the pattern of land use that will likely result in the absence of meaningful planning, and by illustrating more compact and land-efficient design and development. It explains the consequences of incremental, uncoordinated decision making, and offers strategies for implementing a compact growth pattern, while addressing the land uses that are recognized to be necessary or desirable at interchanges. The guidebook was developed and distributed for use as an educational and planning tool for those seeking to manage land use and growth pressures in their communities.

The contents of the

guidebook are intended to illustrate how the application of various planning principles might affect a site development and the resulting impacts on the community. The scenarios depicted in the guidebook are conceptual and demonstrate the possible use of alternative development approaches. The contents are not intended as and should not be construed or applied as a statement of the regulatory policy of the State of Vermont, and do not supersede the policies and requirements of adopted municipal and regional plans and bylaws. Vermont's interchanges (or areas within them) can be grouped into the following six categories that represent different growth contexts and development conditions.

*A. Nearby village or downtown.* A village or downtown is located within 1.5 miles of the interchange. There is undeveloped land between the Type A interchange and the village/downtown. Development in this context presents the opportunity to expand the village fabric in an interconnected, compact pattern at an urban or village density.

*B. New or emerging growth center.* A village or downtown is located near the Type B interchange but cannot be expanded in a contiguous pattern because of development constraints. A satellite growth center, with a mix of uses that complement rather than compete with the traditional center can be developed on land near the interstate. This category is a subset of the village/downtown type. It is difficult to identify which interchanges fit this type without a more detailed analysis of building constraints and opportunities at each site.

*C. Regional arterial highway-Potential strip development.* The intersecting highway

functions both as a regional corridor and connector to a town center in the Type C interchange. There is a significant volume of traffic and increasing amount of commercial strip development along the highway.

*D. Connector road.* For the Type D interchange, the intersecting highway or access road carries primarily local traffic or traffic headed to a downtown more than 1.5 miles away. Growth pressure is less intense and the existing settlement, which takes a linear form, is sparse. To encourage the historic settlement pattern and channel most new commercial uses to the town center, limits would be needed on new commercial uses at the interchange.

*E. Rural, interstate-related.* Existing development in the rural Type E locations is primarily limited to interstate-related uses such as traveler services, and transportation and trucking facilities. Since they do not need to be visible from the road, buildings are distributed in a dispersed rather than a linear pattern.

*F. Limited access highways.* Lack of access to land on intersecting highways prevents development at these interchanges, which are most often located at the intersection of two controlled access roads. The guidebook is organized into two sections. The first, *Planning Guidelines*, examines existing conditions at interchange areas and addresses the special planning issues to be considered to fully address growth there. This section also describes strategies for planning at the municipal and regional levels and some of the state resources that are available. The second half presents *Design Guidelines* for development at interstate interchange areas. These include design concepts to help new development fit into the various Vermont

contexts found at interstate interchanges. Included are recommendations on siting, building, and landscaping development at interchange locations. The Planning section is intended primarily for use by local and regional planners in preparing and adopting plans and regulations for land around interchanges. The *Design Guidelines* are directed to a broader audience. They may be used by developers and landowners beginning work on designing development projects, local planning commissions crafting standards for the review of projects, and citizens interested in learning about desirable development patterns at the state interchanges. Rather than using the guidelines to evaluate specific projects, the guidelines are designed to help communities and regions prepare policies that are specific to the unique setting and context of each of the state 52 interchanges.

## Road's integrated planning in Emilia-Romagna

Lucina Caravaggi

The Region of Emilia-Romagna promoted the drafting of Guidelines for an integrated planning of road infrastructure through a competition held in 2001-2002. The interdisciplinary working group that carried out the study presented briefly in these notes is made up of Susanna Menichini (coordinator), Lucina Caravaggi, Luigi Napoli, Rosario Pavia, and Giovanni Zallocco. The document, entitled *Stra(de)paesaggi* (edited by L. Caravaggi, S. Menichini, R. Pavia and published in 2004) contains a critical presentation of the work, while the Guidelines will be published in their entirety by the end of this year. The Transports Planning and Logistics department, the Roads Department and the Valorization and Protection of the Landscape department of Emilia-Romagna Region have contributed to the elaboration of the Guidelines. The inspiration behind the Guidelines is the belief that the territory cannot be considered a 'neutral' support in the design and planning of infrastructure, but constitutes the central point of reference for the plans. In other words, the territory has not been used as a banal reference for choosing the layouts, or as the subject of mechanistic environmental impact assessments, but as a creative reference within the definition of the choices and configuration of the spaces. Starting from this hypothesis, in the Guidelines there is an experimentation of a possible manner of integration between road planning and a 'conscious' interpretation of territorial contexts and local landscapes, and in

particular the possibility to firmly correlate the variables connected with safety and improvement of the road system performance with the 'contextual' variables referring to the various landscapes through which the road passes and which it helps build and modify. Roads and landscapes are no longer considered autonomous objects to be correlated, but a "genetically recognizable set", called ironically in Italian *strapaesaggi*. In an attempt to avoid a catalogue of generic recommendations or, on the other hand, the umpteenth technical type handbook, the Guidelines are situated in an intermediate area, proposing a possible manner of working, a path for developing the decisions to be shared with various parties working on road planning and useful to the Region for directing the funds. For many years now the necessity to rethink road planning, resuming the dialogue with today's territories, has been asserting itself, but the difficulties of a continuing technical and administrative separation that relegates roads to a shielded sector (especially from the standpoint of funds and project management), together with a widespread nostalgia for lost rationality models (and irremediably lost landscapes) that characterizes numerous design studies from within, seem to prevent the 'realistic' imagination of new *strapaesaggi*. In an attempt to increase plans that are 'adequate' for numerous contemporary needs-demands-expectations connected with roads (coexistence of heterogeneous types of traffic, safety, environmental comfort, route legibility, enjoy-ability of itineraries), the Guidelines propose a route that is open but not generic, characterized by a circular arrangement

(without obligatory entrances and exits), but with some inescapable itineraries. The open structure of the Guidelines also serves for the updating, implementation, and modification of e design indications, after checks, experiments, and indepth analyses by both the regional authorities and the numerous users. In the first case, the design sense of the relationship between the road functioning and territorial connections is outlined; in the "Contexts" section, it is advisable to consider the role of the road with respect to its context, regardless of the size of the structures to be planned (the term 'context' has been expressly assumed as a trans-scalar reference). The notion of 'context' refers to the infrastructure, settlement, and ecological functioning parameters of the territory, considered indispensable for the construction of the decisions, very different from what happens in the weak and useless framing (a term that presupposes the existence of a frame-existent, within which a new object can be placed) documents. The key documents envisaged by the Guidelines in this section refer to the terms 'road functioning' and 'structure'. The relationship between road and possible plan scenarios is dealt with in the section called "Landscapes", within which various and apparently heterogeneous operations converge: a closeup reading of the physical-spatial differences inside the various contexts; a study oriented toward the perception of the road by different parties (in relation to problems of functionality, safety, public health, etc.); regional planning decisions and recognition of the local demands that are increasingly crowding around the planning of new roads; selection of design

themes capable of giving collective meanings, and possible added values, to a single work; interpretation of the layout as the relationship between road, ground, and areas of interaction (on the basis of the choice of layout, the road becomes a rut, side, barrier, gutter, overpass, underpass...). This way the term 'landscape' definitively abandons the meanings of the landscape-frame in favour of new meanings, as hoped by the European Landscape Convention, and in particular by the impossibility of considering a landscape without reference to certain parties, and by the landscape that becomes the logo of a new, desired 'sustainability' (environmental, social, economic, etc.). The spatial interpretation of the road-landscape relationship in the Guidelines refers to the concept of 'rhythm'. Through the study and critical development of rhythm, every road can be recognized on the basis of specific and distinctive spatial characteristics, which are more or less readable in the current state, and the identification and highlighting of which is one of the most important and innovative tasks of the infrastructure project. This type of elaboration is contained in the first project sheet. The rhythm is meant as a spatial cadence that can be identified through the perception of the road from within, the complex product of a particular combination of linear sequences, intersections, and junctions. The elements in play, already identified as responsible for the rhythm, are selected and observed closeup on the basis of their recurrence (situations that are frequently repeated) or exceptionality. The first family of relationships to be planned is the one responsible for the

continuity of the road, which involves the side spaces of the layout. The second family is that of the intersections, referring to natural or artificial elements (streams-bridges, direct accesses, side buildings-settlements) responsible for the 'internal' rhythm of a certain road route, and thus characterized by recurrence, resemblance, and continuation. The third family of relationships is that of the distribution junctions which generally refer to infrastructure or settlement elements responsible for the interruption of the continuity of a layout (large accesses, turn-offs, variations of the roadway or road system in relation to the change of the context of a settlement, environmental, etc.).



## The 'complex' road planning

Giuseppe Barbieri

In recent years conservative experts have adopted a different approach to planning road systems, in particular they have taken into landscapes they are set in. Photographers, geographers, economists and sociologists as well as specialists in the field, architects, urban planners and landscape architects, have distanced themselves considerably from standard procedures in road planning. The above has occurred because of four fundamental facts:

1. The lack standard planning practices in the overall design and formation of new urban territories. There is no relationship between society and the individuals that live and use cities that have developed alongside the links in the network; furthermore, a road plan ignores its potential existence.
2. The necessity to perceive the road system not as a mere service but rather a 'public space'. To explore the road system to its full potential: once again it is necessary to imagine the road as a linear sequence of spatial events that can be used in a bold manner by those who transit through them and by those who dwell in them. It provides an opportunity for the hidden demand of new metropolitan rituals, that is a rapport with new centralities and the new bond with traditional services associated with the road system.
3. The diffusion of a notion whereby the road, instead of disappearing into the landscape as it currently does, provides the opportunity to 'design' contemporary landscape in conjunction with infrastructure, nature and settlements. The use of tunnels is becoming increasingly frequent.

Landscape is no longer considered as an aesthetic expression which is part of a whole but rather a force field. The vast and pulsing network system at the service of the contemporary individual is complex.

However, the settlement systems, which are serviced by networks and which have developed by the adjunct of functional constituents, do not provide a 'complex' dimension in return. Instead, new urban territories take on a wasteful uncertain shape.

4. The relationship between plan and administrative procedures that makes it impossible to 'work in terms of complex' and that governs interaction among the various parties involved, experts, partners and decision-makers.

In Italy today, regulations governing road planning is the result of an accumulation and superimposition of non-organic rules aimed at resolving various problems. It is a fragmentation that makes it difficult to accept that an infrastructure plan can be a fundamental component of complex integrated territory planning procedures. It is imperative that the various facets and issues associated with the plan do not compete with the political or technical decision-making procedures that have already taken place.

It is necessary to build a platform for interaction among the various partners involved in order to create a new type of administrative process:

- an explorative use of the project. The quality of results is directly dependent on the ability to tackle issues in the correct manner. Today we are witnessing a lack in awareness of demand as defined by various commissioning agents of infrastructure works. It is possible to experiment with new alternative 'territory infrastructures', via the

recognition of a different role attributed to architecture in the decision-making processes that govern complex territory transformation. For this to take place a topdown approach to planning must exist;

- a list of strategic actions. A city that is a part of the territory must be built with an architecture of flows and networks. Architecture that is instrumental to the construction of flows must identify procedures rather than products, that is strategy actions that can be conjugated in various ways and at various points in time, but which are capable of having an effect on the perception and development of space.

*In.Fra. Settlement forms, environment and infrastructure* is an example of a research project conducted by the Pescara group over two, two-year periods of the above. The project adopted two mottoes: planning space for networks and planning architecture for transversal crossings. A number of case studies were selected to experiment with given strategic and technical 'actions' that were in keeping with the above general guidelines.

The space associated with road bridges creates a given geography and topography of places that is yet to be known. Road networks intersect and meet other different networks in the space surrounding road bridges. These examples of space are different from the space which surrounds settlements, and other environments and infrastructures. Therefore, the road bridge is always a point of intersection and interaction. These spaces often come to exist as a result of change and decisions made by those who work in the sector. Therefore, it is necessary to transform these spatial 'relics' into 'resources' for the city.

The connections between port and territory is a notion related to the motorway system that runs along the coastline. It has raised the issue not only of the transport link with the sea but also the issue of a compatible and integrated insertion of an infrastructure connection between the port and land communication systems. It is necessary to identify the individuals and complex functions that operate in these connections.

The infrastructure system of the Adriatic coastal belt runs along the coastline.

Consequently transversal crossings between the coast and hillside areas are neglected; an infrastructure and settlement network that moves into the hill-side areas does not exist. Road planning therefore has a dual task: to connect as well as order in and around it exchange nodes with local, disorganized and discontinuous local settlement networks.

## Building on Buchanan: evolving road hierarchy for today's urbanism

Stephen Marshall

In his seminal work *Traffic in Towns*, Colin Buchanan laid out in about four pages a basic principle for road hierarchy that has become an influential force in shaping the layout of urban areas for forty years (Mot 1963).

However, on closer inspection, hierarchy need not be the rigid device it often appears to be, but can be a robust, flexible tool for the generation of urban layout. Following research investigation into the nature of road hierarchy, it emerges that hierarchical principles can be used creatively to form the foundation of a broader, more general system for street management.

### Conventional road hierarchy

*Traffic in Towns*, also known as the 'Buchanan Report', laid out a comprehensive vision for urban planning for the motor era. While this vision included some memorable images of modernistic 'traffic architecture' with a megastructural medley of tower blocks, multilevel pedestrian decks and motorways, the 'new look' imagery was not itself essential to the basic principles, as Buchanan himself noted (Mot 1963). In effect, Buchanan made the founding principle of *Traffic in Towns* the straightforward distinction between roads for traffic and those providing access to buildings: "Basically, however, there are only two kinds of roads-distributors designed for movement, and access roads to serve the buildings" (Mot 1963). In effect, this 'basic principle' is a division between a system of traffic distributors, where the needs of movement are prioritised, and a system of 'environmental areas' where

environmental considerations are prioritised. This directly echoes the approach of H.A. Tripp two decades earlier, who asserted that these two functions were "mutually antagonistic", and must be separated in two kinds of urban road (Tripp 1942, 1950; Mot 1963). Although the concept of road hierarchy is still with us, it has become somewhat less prominent in successive guidance documents (for example, in the UK, *Roads and Traffic in Urban Areas*, DoT 1987; *Transport in the Urban Environment*, Iht 1997). And, in contrast to Buchanan's clearly set out formulation, today's expression of hierarchy has become somewhat toned down, and the distinction between different kinds of distributor and access road blurred. Yet to the extent that the basic principles of road hierarchy still hold sway, they are often seen as problematic from certain urban design and planning points of view, and in the face of criticism from a variety of those quarters there is a danger of hierarchy being further compromised or dismantled altogether. The time therefore seems ripe to revisit the principles of hierarchy and explore if and how they may be adapted for today's needs. There are many kinds of road hierarchy in existence, and they all appear to be ranked by some kind of 'traffic function'. This traffic-oriented impression is reinforced by the typical ranking from major traffic roads such as primary distributors, or traffic-only roads such as motorways, at the 'top' of the hierarchy, down through intermediate road and street types, to pedestrian-only streets or paths at the 'bottom' of the hierarchy. While the rankings may appear to be by some kind of 'traffic function', and hence the criticism of

hierarchy for being traffic-oriented and part of the urban problem, on closer inspection the actual criterion for distinguishing and ranking different roads is found not to be based on traffic flow, or traffic speed, or any actual traffic or engineering criterion (Marshall 2005). It turns out that the ranking is actually based on the geographical scale of significance of the network to which a road belongs, where roads are arranged topologically according to a structural property known as 'arteriality' first identified in a cartographic context (Morrison 1966).

### A new formulation for hierarchy

The fundamental basis for the system is premised on the linking of two ideas:

- any street section has a combination of link status and place status. (The terms link status and place status echo the distinction between 'link qualities' and 'place qualities' of Caliendo 1986; and are equivalent to the terms 'arterial connection' and 'urban place' used elsewhere, Marshall 2005.) Link status and place status are independent, and not one the inverse of the other, as with the 'mobility function' and 'access function' of conventional hierarchies;
- link status and place status will depend not only on the immediate attributes of the street section (including physical form and demand for use), but on their role with respect to the wider street and urban system considered as a whole.

Link status denotes the relative significance of a street section as a link in the network. It is effectively based on its scale of significance within the network it belongs to: for example, local access street, district distributor, city arterial. In principle this could relate upwards to a national or international

scale significance. Place status denotes the relative significance of a street locale as an urban place in the whole urban area. For example, a street or square may perform a city-wide role or a more local role. The place status is, like link status, related to geographical scale. Each street section is classified according to its link status and its place status. In accordance with the way they are defined, these are independent variables. They can therefore be arranged as a two-dimensional classification framework, rather than the linear ranking typical of conventional practice. From this kind of framework it is possible to distinguish different types of street, defined by their combination of link and place status. These types may be represented as 'cells' in a 'periodic table' of street types. Key features of the system are:

- the classification serves to classify any street section in strategic terms, that is, it relates the significance of a street section with respect to all streets/places the whole city;
- the units on each axis are comparable, they relate to geographical scale, for example, district distributor, district centre;
- because of the way they are defined, link status and place status are not mutually exclusive, and a given street or street type can combine both, in principle, such as in the case of the traditional boulevard;
- the 'periodic table' is felt to provide a good balance between simplicity and complexity. It is complex enough to give a 2D spread of types of street, but by limiting to 2D is easily graspable by users.

### Applications and conclusions

This exercise in

classification is, as been stated, not done for its own sake, but for the purpose of assisting the design and management of individual street sections relative to the functioning of the whole system. Here, the combination of link status and place status can be used to guide decisions in the trade-off of street-space, between different transport modes and different urban activities (Marshall *et al.* 2004; Svensson 2004). Hence, the trade-off of the street-space in a particular locale will be affected not only by the immediate demands placed on that locale, but its strategic significance relative to the wider city context. This means that in designing street-space within a particular locale, there will be a simultaneous trade-off between immediate demands for space and time (for pedestrians to cross; for one stream of traffic to turn right or left across another stream; for street trading, etc.) and the overall functioning of the city.

As well as guiding decisions on street design and management, the classification can be used as a basis against which to judge the performance of a street.

This paper has demonstrated a classification system where a street is classified according to two independent criteria, namely link status and status. This classification can then be used as a basis for trading off street space (area at the micro scale) to support link-related and place-related functions. This is considered an advance on conventional classification, for the purpose of meeting today's urban, streets-oriented agenda, in that it can readily accommodate street types not currently recognised, such as the arterial street; and the classification allows the link function of the street to be traded off against

activities relating to the role of the street as an urban place, on an explicit and transparent basis.

In the end, hierarchy need not be seen as a 'tyranny of traffic regulation', but can be 'built upon' to provide an organizational logic that can bridge the professional divide, between planning and engineering traditions, just as Colin Buchanan himself did personally.

This route hierarchy can in turn provide the foundation or 'skeleton' for a broader urban code, that would relate the different kinds of route type to different permutations of land use and built form, hence creating a comprehensive 'code' for urban design.

## The architecture of the street of Lyon

Jean Pierre Martin

The book *References and spaces of roadway system* presented, aims at a culture shared between elected people and technicians in order to develop future projects. It relates to the roadway systems of the Urban community of Lyon. Taking over from the State on more modest roadway systems, the French cities begin a work of practical experience which takes into account the needs and the local requirements. In a traditional way the roadway, print of the course of the vehicles, traces the way. The pattern is simple and reproducible. Twenty years later the number of the stakeholders increases. We have recourse to an increasingly strong specialization of the thought and the action. The city of Lyon, far from the State, works now on the process of the plan, the quality of space, the project control, the first vocabulary of the roadway system, then will come the guides. The pattern 'whole for the car' changes gradually by adjustment and variation. At the beginning of the Eighties ten, begins an empirical and iterative step on the projects of roadway system. The fast installation of pilot boards of materials and furniture allows to build the new vocabulary of Greater Lyon. The new roadway system defines the limits, the fasteners, the connections. The color is marked by the aggregates, the levelling is essential. We always try to reduce visually the roadway, the parking is embedded in the pavement, and no project without trees. Towards the end of the previous decade, the attention goes then towards a better definition of the programs. It's called upon the urban studies for the roadway system, the writers to decipher the invisible of

the streets, the artists, the sociologists to épier displacements of the inhabitants of the city of Lyon. But also charters are published: ecology, trees, pedestrian, two-wheelers, handicapped. The project is surrounded, controlled more and more by the head of project. The founders of the roadway system in Lyon, are known but they have trouble in standardize their work. The increasing complexity of the projects: administrative, legal and political, obliges us to have a new kind of exchanges. In the year 2005 we live, at the same time, an overflow of experiments and a deficit of exchanges between elected people and technicians, inhabitants and researchers. We must go about one period of training of the recent references, one period of post guides sets of themes. The publication exposes the structure of the work *References and spaces of roadway system* which concern 24 projects including: a card of reference, a program and general principles, principles of installation and uses, finally looks more interested on the project. It is thanks to the force of the example which research must advance. The development of the values mobility must allow the town-dweller to have access on the installations of quality, to have the choice to move in new places which he will appropriate. We often spoke about this mobility on great scales of territory, it is also necessary to think of the balance between installations and proximity mobility. In this way the town-dweller will find the dense city, by choice more than by constraint. To be, sometimes, better outside than at home, will then become a legitimate claim for the greatest number: the local communities will find their prestige of yesteryear!