1. A hypothesis for territorial governance

In order for urban and territorial planning to identify the correct decisions, implement them in ways compatible with the characteristics of the place, and manage them appropriately, different disciplines have always had to work together. But a “Come back to earth” requires much more! It requires a new approach that turns urban thinking on its head, requiring acceptance that to maintain the unity and integrity of the landscape man has created, we have to understand the interplay of the physical, social and cultural factors that concurred in its formation in each place, and gave it value as an asset. And whatever the specialist planning experts from different disciplines may agree, the decisions must pass through local communities; the governance of agricultural land and bodies of water, and the safeguarding of green areas so that they are not consumed by development, must be put into the equation along with expectations about economic convenience, social equity, and public health. If the aim is to bring non-urbanised areas back into a proper balance and overcome incompatible uses, a multiplicity of technical skills that are often not considered when political decisions are taken, or are considered individually, must now be brought face to face so that they guide all decisions affecting territorial governance.

When in modern times the city was taken as an object for study, Ildefons Cerdà coined the term urbanistica [urbanism] and defined the architect-urban planner as a generalist professional who must make use of various languages: topography of places, in order to study the gradients in a given context; statistics, in order to be able to think logically about the dimensions of the phenomena to be dealt with; and description, in order to be able to talk about the city and articulate the decisions required for ensuring that new residential settlements are healthy and of good quality. At that time, in the mid-19th century, it was being discovered that the origin of some diseases is viral and that other ailments resulted not only from a lack of sunlight or ventilation in buildings, but also from the pollution of public wells; thus alongside the works to regulate the waterways, the discipline of sanitary engineering also came into being. It was at this time that our archetype of compact city began to take shape with the construction of symbolic new buildings such as the department stores like those for Le Bon Marché, new town halls, museums and cultural buildings, and large residential and industrial areas that were laid out with new public squares, road and rail systems, and large-scale water and energy networks to create the infrastructure for a later expansion of the metropolis based on the hypothesis that the new settlements would rely on tried and tested types, recalibrated to maximise the return on investment.
Today the increase in urban expansion, the competitiveness between the major world cities, and the worsening problems of pollution and healthcare costs suggest that decisions affecting the quality of cities and territories should be made in relation to land, water, and air. The very modern conception of landscape (resulting from urban culture) and the tools of parks and the safeguarding of periurban agricultural zones, however necessary these may be, are at risk of being left over as mere islands of good land use. In this regard, the physical and territorial macro-systems shown in Table 1, which was prepared in 2007/8 in relation to our studies for the Territorial Plan of the Province of Milan, summarise the analyses and characterisations of the rural space and underline the functions of each type of land/subsoil and the presence of aquifers, as components of an environmental balance between man-made urban and agricultural systems.

Following the reform of Title V of the Italian Constitution in 2001 and the most recent regional legislation on planning, it is now recognised that territorial planning is a sharing of skills between various institutions in which programming, localisation, and implementation require the involvement of different actors and disciplines along with the local communities affected. This conception means taking all the policies, and the whole of a territory, as the object for study when decisions are taken about a plan and its implementation programme: applying the peculiarities of each discipline in different ways, combinations, and forms with respect to the relationships between the environmental factors and the landscape values that can be identified in the history and culture of the places affected. If we may paraphrase Lewis Mumford in *The Story of Utopias*, the role of “the scientist” in this work cannot end by compiling a report, nor can the task of “the artist” be limited to dealing with only some of the issues involved.

**Figure 1.** Map of the physical and territorial macro-systems. Source: Mapping produced for studying the Territorial Plan of the Province of Milan 2007-2008: agreement between Milan Polytechnic University and the administration of the Province of Milan (Departmental Head: Maria Cristina Treu).
2. Territories in support of the city

Because of the problems it poses for the debate about the future survival of cities and how they should develop, this changed viewpoint requires us to think again about cities, particularly about the metropolis. To be effective, this is a debate that must lead the institutional decisions that affect how the extra-urban territory is planned, and must integrate them with an urgent programme of works to complete the reorganisation of the inherited nineteenth-century infrastructure, beginning from its environmental backbone of territory-wide technological and ecological infrastructure: the power grids, water mains, and the natural or engineered water supplies fed by the hydro-geological system. In this sense, whilst the importance must be recognised of keeping parks as green islands, restoring particular areas and parts of watercourses, surrounding our water network with buffer zones, and protecting agricultural land, such measures are no longer sufficient. We must realign our approach to planning to make it accord with a recognition of the contribution made by infrastructure to the life of cities and the health of their inhabitants.

So even though there is a legal interpretation that restricts urbanism and its planning tools to constantly mediating between pressures for development and compensating for its effects with ecological and social measures, this interpretation is based on nothing other than the very rules introduced by the culture that created these cities and these environmental issues; and that is why it cannot be allowed to remain in place. In support of this assertion, which is neither intended to be consolatory nor to attribute to others the responsibility for the discipline of urban planning, two issues still await resolution: on the one hand, the distinction between the right to build and the right to ownership of land, for which law 10/1977 permits the payment of a monetary indemnity and on the other hand, the expectations that arise when the Italian tool of “perequazione urbanistica” [consensual development agreed between local authorities and private interests] is adopted. The consequence is that even as public and private actors compete for social and economic innovation, the interests of both remain subordinated to the tyranny of increasing land value.

As things stand today, and not only in urban situations, this projected financial return is more and more dissociated from the product and is associated instead with “the acquisition of an extra-economic legal right” in the expectation of a possible super-profit: “the price of land does not exist in itself; it originated from the activity of the promoter and his ability to be acknowledged as holding the power to regulate the city” (Persico 2012).

In a context in which - besides protecting land by instituting parks and blocking its indiscriminate use - there is no doubt that we need tools to encourage the reuse of existing buildings and to enable settlements in urban sprawl to be connected to the infrastructure networks, our decisions must be based on the effective load capacity of the ecological infrastructure and the ability of public transport to serve very large areas. We should also return to the evidence given by the costs of healthcare and safety, so that inter alia we can direct and quantify territorial planning decisions by basing them on a framework that takes account of the inherent value of land; and we need development programmes that manage surface water and groundwater by balancing filter areas with paved areas, as part of a new large-scale climatic and environmental equilibrium within each principal or secondary drainage basin.

Historically, every Italian city has always carefully looked after the territory on which it depended for its survival. One reference is the famous cycle of frescoes by Ambrogio Lorenzetti “The Allegory and Effects of Good and Bad Government” in which good quality of settlement in the city and the countryside is represented by a harmony that
Figure 2. The system of Regional Parks, the Southern Agricultural Park of Milan, and the Green Ridge System. Source: The 2003 Territorial Plan of the Province of Milan.

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reigns between the policy makers, symbolised by the knights - representing the various districts of Siena - who we see waiting in an orderly queue to pay their respects to an authority figure symbolising wise government, holding the scales of equity in one hand and the sword of justice in the other (Bodei 1998). Today there are still some remaining urban places in which we can see signs of those relationships that tied a city more directly to its countryside, as in the territory around Mantua, where the urban court of the Gonzaga was able to keep up relations with the world powers of the time, meeting their high demand for such goods as war-horses, because the city was sustained by the water networks and agriculture in its wider territory.

Good governance of an analogous kind was partly behind the intentions of the political forces that supported the establishment of the Southern Park project for Milan. At that time the intention was that this Park would guarantee a green lung for the urbanised area of the metropolitan city; would safeguard an agricultural area sufficiently large to sustain effective levels of production; would resist the pressure for new roads and new settlements; and would be large enough to permit unobstructed air movement and exchange.

Over time this objective encountered various difficulties brought about by industrialised farming and most particularly by aggressive pressures to build new developments and road infrastructure.

In this regard see Table 2, which shows the extent of the regional parks, the Southern Park, and the green ridge system in the 2003 Territorial Plan of the Province of Milan along with Table 3, which shows the road system of the Milan metropolitan area (see AA.VV. 2009). Comparison of these two tables shows that a “Return to the Land” requires much more effort, and that the decision to create this agricultural Southern Park must be upheld by demonstrating that the survival of the metropolitan area itself continues to require a system of defended areas consisting of all the free, or the less compromised parts, that exist throughout the Po valley and extending as far as the curving line of the foothills to the north. This affects multiple regions and calls for a system of decisions requiring investment, and which work towards a different model for managing natural resources that balances profitability with the value of maintaining environmental and social equilibrium (see Treu 2011).
3. A biosphere reserve: the waters and fertile lands of the countryside in the Po valley

When the tools for an urban plan are being developed it is normal practice to investigate the history of the city and analyse how its built fabric evolved, using the survey maps drawn up at different times to compare the morphology of its parts and the typologies, functions, forms and sizes of the buildings. These analyses are always accompanied by studies of the changes in demographic structure, in the social segments that make up local communities, and in the areas of interest that guide the behaviour of the various investors. This territorial analysis is kept within administrative boundaries and is focussed on urbanised areas, but overall it shows what has been happening in all the communities and settlements, and in the territory as a whole.

A "Comeback to earth" requires that we revisit the history of the territory - which is perhaps not so popular as the history of the city - to study how the flows of the water formed it; how climatic factors shaped and transformed the land into hills and plains and are now putting a heavy strain on these regions; and how over time people worked to organise crops and livestock and created the varied settings and landscapes we have inherited from them. These are factors that also involve the wider world, if for no other reason than that the relationships that made it possible to cultivate plants and crops from distant regions meant that the specific characteristics of the local physical, social, and economic resources, and the dynamics between different population centres, had to be addressed.

So before we identify any decisions about settlement, this new approach requires us to study the land to rediscover its geophysical and morphological qualities and the still-visible signs of the wanderings of its watercourses, in a territory now completely manmade; in order to avoid underestimating the constraints imposed by nature, and the risks that derive from natural and man-made causes; to address the decline of rural settlements and urban buildings, including some of recent construction; to counter the abandonment of agriculture and its homologation with the intensification of output per hectare and the expansion of sites used for power generation. This is a pathway of research that also enhances awareness, including cultural awareness, that land is a valuable finite resource; denounces
the insufficient appreciation of the value of potable water as a resource, and the significance of reducing the area for surface water run-off, which is causing many wetlands to become smaller and smaller as a result of construction activity and the aggressive pesticides used in intensive farming. In these ways, creating a territorial park can become the vehicle for inculcating knowledge about the inherent resources of each region; a way to safeguard the many areas of special protection and above all of establishing small and large biosphere reserves whose sites and activities extend beyond any one region’s particular borders.

The territory between the valleys of the Mincio and the Adige is the largest wetland in Europe today, stretching from the morainic hills of Lake Garda to the Po. The many springs in the area still feed a network of canals and are the remaining fragments of wetlands, rich in biotopes, where at one time many different crops were grown but where maize and rice are now beginning to prevail. The pressure exerted by vested interests on this area can be seen in the industrial zones that have been designated around the Modena-Brenner Pass motorway exits, in the centres for the promotion of rice products, and in some proposals for themed new towns, two of which are bigger than the largest existing town in the area: a ‘motor city’ and an imaginary new city called VEMA (Verona+Mantua) drawn up in 2005 by the architect Franco Purini. A redundancy of actions accompanied by further proposals for new road and rail infrastructure that would affect a territory that eats into parts of the Mincio Park or of ZTSs (Special Protection Zones) and falls within the provinces of Mantua and Verona, which in turn are subordinate to two different regional governments, each with its own objectives and instruments and in relation to which various memorandums of understanding have had little effect: an indifference especially evident towards the water network and the existing constellation of small towns, farms, and underused old and new industrial buildings dotted here and there across a countryside that is still rich, but where there are more old people than the national average and where there are increasing numbers of migrant workers who do not vote. In this regard compare Table 4 of Land Use Plans, Table 5 (the hydrographic system), and Table 6, which shows the road system in the area between Mantua and Verona, bordering in the east with the Mincio Park and in the south-west with the site for a new eco-museum, together with Tables 7 (a, b) on land consumption.

Figure 4. Assembled mosaic map of Land Use Plans. Source: Environmental Planning Workshop (Departmental Head: Maria Cristina Treu) - Milan Polytechnic University, Mantua Annex, 2010-2011.
This vast territory is also affected by the activity of investors who have been buying up agricultural land and using it for various industrial purposes not necessarily related to processing or preserving agricultural products, and which are bringing about a consequent increase in the presence of subcontracted labour or workers from outside the EU.

Faced with the problems of governing this territory, the classic planning tools used by local governments have scant efficacy. The municipalities tend to look for parochial-minded decisions, whilst even regional policies lack any strategic vision and make no attempt to apply European directives in ways that relate the grants they give to businesses to the characteristics and resources of the different territorial environments.
Figures 7 (a, b). Source: Environmental Planning Workshop (Departmental Head: Maria Cristina Treu) - Milan Polytechnic University, Mantua Annex, 2010-2011., our elaboration on 2010-2011 data on land consumption caused by projects and infrastructure.
For these reasons it is not enough to repeat the mantra that calls for land not to be consumed. We need to raise awareness of the inherent qualities of land itself and its economic potential and, as we know from the recent flooding and the seismic problems of inhabiting a flat plain traversed by waterways that discharge into the Po, we also need to raise awareness of the costs of underestimating hydro-geological issues. Nor is it good enough to think of expanding tourism by following the commercial model adopted in the Garda area, or by programming events that increase visitor numbers to an extreme, but only for very short periods, in territories that in reality tend to attract niche tourists more interested in visiting eco-museums.

This paradigm shift requires scientific thinking and a scientific approach to territorial and urban planning, adopting new keys for interpreting the contexts studied, developing scenarios to evaluate and monitor proposed developments and taking, as the guiding criterion for decision-making, the concept of the network understood on the one hand as a system of urban places of varying importance and size and the relationships between them and on the other hand, understanding each local community as a subject to be leveraged for developing the inherent resources embedded in any given territory. So as well as being able to rely on decisions that are more consistent with the inherent quality of the land and with the designated parks and reserve areas, we need thematic maps for use in guiding decisions that relate to managing the built environment and controlling whatever demand there may be for new development; and we also need a cultural programme that encourages local communities to agree on the importance of adopting a European project for a biosphere: one that includes all the water bodies and the still-fertile fertile lands across whole of the Po countryside.

References

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Abstract

A comeback to earth requires a paradigm shift in development strategies: a reversal of the urban point of view which means acknowledging, in the values of peculiarity and integrity of our territorial environments, the role and impact of physical, social and cultural factors that allowed the formation and enhancement of landscape in each place. The growth of urbanisation processes and the competitiveness among the great world cities tend to deepen the problems of pollution and health costs and require processes of urban regeneration based on a knowledge of the territorial mac-
ro-systems of every major urbanised region. The very tools of parks and preservation of agricultural areas are likely to remain good consumption islands if the multiplicity of factors that must converge in the development choices is not considered by the entire system of public policies. While each planning instrument remains confined within the ambit of mediations between the pressures of real estate markets and the underestimation of too many issues, including the ineffectiveness of urban equalisation, due to the economic crisis and the widespread financialization of real estate industry. We must return priority to the history of territories and places to rebuild the fabric of urban communities and to protect the biosphere reserves still surviving in the waters and the fertile lands of our countryside.

**Keywords**

The uniqueness of environmental factors; the commons: soil, water and air; the physical and territorial macro-systems; the Biosphere reserves; the city and the other city.

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