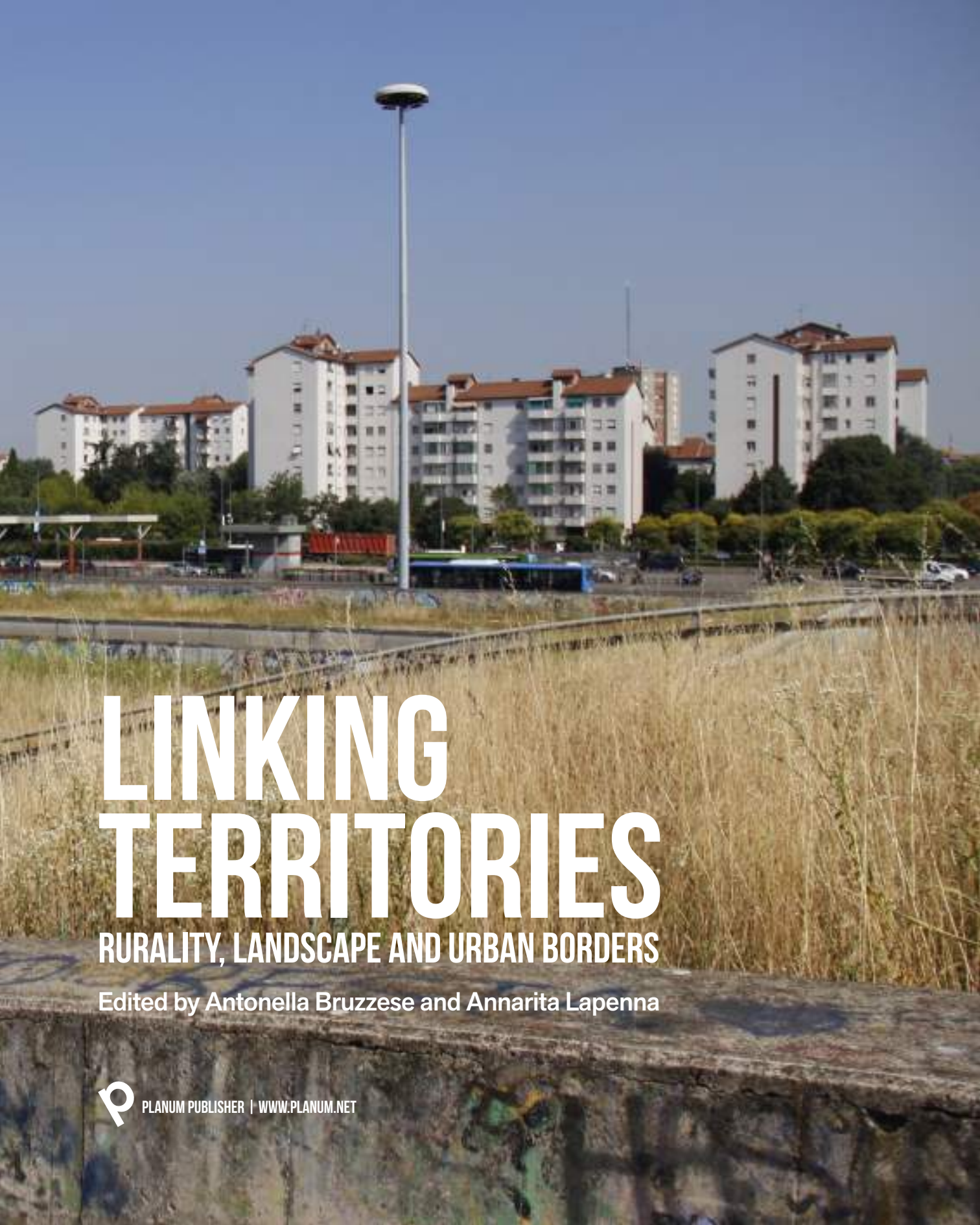

LINKING TERRITORIES

RURALITY, LANDSCAPE AND URBAN BORDERS

Edited by Antonella Bruzzese and Annarita Lapenna

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POLITECNICO DI MILANO
DIPARTIMENTO DI
ARCHITETTURA E
STUDI URBANI

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INTRODUCTION
ABOUT LINKING TERRITORIES

Antonella Bruzzese
Annarita Lapenna

RURAL AND URBAN

Rural areas close to the urban fabric no longer serve their adjacent towns as they once did when the link between town and the surrounding countryside was fully intertwined and they were economically interdependent and, in a sense, symbiotic. For decades, the relation between the production of food and energy and their consumption at the base of the economy has completely changed, alongside the balance between landscape and built environment.
The issues surrounding the so called 'endless city' and the pervading urban condition, which is mainly concerned with the ever increasing global population, is at the centre of the debate in the field of urban studies at a global scale[1]. Nevertheless, if we focus on the local scale, observing specific territories between the compact city (which is still present in the European context) and the countryside, we can easily remark how much these borders are blurred. Even if many scholars investigate this "in between condition"[2], these territories are still out of focus. This means that the relationship between these two dimensions – rural and urban - must be, somehow, re-imagined in order to establish new and different balances (social, economic, and environmental), in particular in order to better share resources and to foster opportunities for sustainable development. Through this perspective, the relationship must be rediscovered as a strategic alliance to territorialise the urban actions in a local condition and to develop the rural milieus in accordance with the urban context.

LINKS

Many contemporary projects are still the result of a traditional application of the principles of division and segmentation of the inhabited area, although a change in this attitude is in progress in many fields of our increasingly interconnected daily life. This change, therefore, is visible in the widespread effort of linking things and people, in the attempt of establishing stronger relationships between humans and societies and the natural background that surrounds them. In the same way, territories affected by the dynamics of regeneration, must go through the reactivation and the instauration of these links effectively. From territorial strategies to architectural projects and urban planning, these approaches aim to regenerate the environment at all scales. The challenge is to re-activate and invent other physical, symbolic and technical alliances between nature and culture.
We need to imagine new connections and links: temporal-space links, territorial and economic links. Temporal-space links are concerned with the creation of new links between urban and rural

milieus as a means to regenerate places in space and time, as effective sustainable urban projects do, whenever they are able to tackle critical situations and to reimagine territories to create new value. Furthermore, urban agriculture must be a way to rethink and recycle the potentials of urban transformation.
Economic links are reliant on the economic inter-dependence between urban-based enterprises and rural consumers and between rural producers and urban markets. The reliance of many households on both rural and urban-based resources, underlines the important potential role of agriculture in local economic development.

WHICH KIND OF LINK BETWEEN RURAL AND URBAN?

Many projects, initiatives and policies of different kinds have explored respectively the meaning and the feasibility of the intermediate condition of being between the urban and rural context, bringing together the characteristics of both of these traditionally very different dimensions. The zero kilometre production that is able to enhance a stronger link between territories, through the direct connection between producers and their consumers; the urban farming that improves the closeness between distant and only apparently different conditions; the reuse of abandoned farmhouses that can recover important pieces of material heritage; the creation of networks for the dissemination of agriculture related goods that allows the reconstruction of the lost memory of agricultural culture: these (and many other similar) practices can represent examples of links between the rural and the urban which are capable of reframing the meaning of these two dimensions. All of them, finally, highlight issues to the design of the territory and pose questions to both the urban and the landscape design and planning.

MILAN

The city of Milan and the areas between the compact city and the surrounding countryside, in particular in the western part of its territory (stretching from the Expò area to the Parco Agricolo Sud Milano, passing through several parks like Parco di Trenno or Parco delle Cave), is an interesting case study to look at when investigating the relationship between the urban and the rural.
The Latin name of Milan – Mediolanum – means 'city in between'. It suggests a peculiar geographical position: between the Ticino, Seveso and Olona river basins in the western part and the Lambro and Adda in the eastern part, and finally between the Po valley and the Alps. These conditions helped the development of agriculture in and around the city. From the precious efforts of monks during medieval times, until modern interventions, man's work has changed this territory, transforming it into a "huge deposit of labor"[3]. Milan has always had a deep relationship with its countryside. The central city could economically benefit from the rural activities of the suburbis, and in turn, the countryside could take advantages from the close proximity of the emancipated Urbis[4].
The morphological relationship between urbis and suburbis, between the city and the countryside, had been the same up until the nineteenth century, when, the city started to evolve in a different way, relying on a fragmented logic with the occupation of empty or agricultural areas. This process modified not only the urban figure but also gradually tipped the balance between urban and rural culture.
Rediscovering Milan as an 'Agricultural Metropolis' brings forward the need to rebuild economic, social, and spatial links between the urban and the rural, considering that the limits of these two worlds are not as clear as they were in the past.
From this perspective, the 'Linking territories' workshop set out to investigate specifically the area of Milan, through the proposition of some questions with the intention of creating some general strategies for the western region of Milan.

THE WORKSHOP AND THE MILAN AREA INVESTIGATED

This book collects the outcomes of the workshop 'Linking territories. Rurality, landscape and urban borders' conjointly organised by the PhD course in Urban Planning, Design and Policy (UPDP) at the Politecnico di Milano and the Post-Master "Architecture des Milieux" at the Ecole Spéciale d'Architecture de Paris. The workshop has had a double aim; to widen the view of the relationship

between urban and rural areas by involving different groups of research and practice, and to define experimental proposals able to imagine new spaces for the co-habitation of urban and rural ways of life, in the end redefining the concept of rurality and its relation with the urban condition.
Carried out from May until September 2015, the workshop focused on the western part of the city of Milan, where the relationship between the compact city and the countryside offers an interesting field of research. Three areas in particular have been explored:

Muggiano, area of rural enterprises and urban borders: in Muggiano, there are a large number of rural enterprises practicing intensive agriculture. The proximity between industrial/agriculture production and residential areas often results a "difficult cohabitation". The historical link between urban living and rural activities disintegrated a long time ago and in these areas such loss is particularly visible. Residential and rural worlds turn their back on each other and do not show any kind of relationship. How can we approach this relationship between intensive agriculture and urban living?

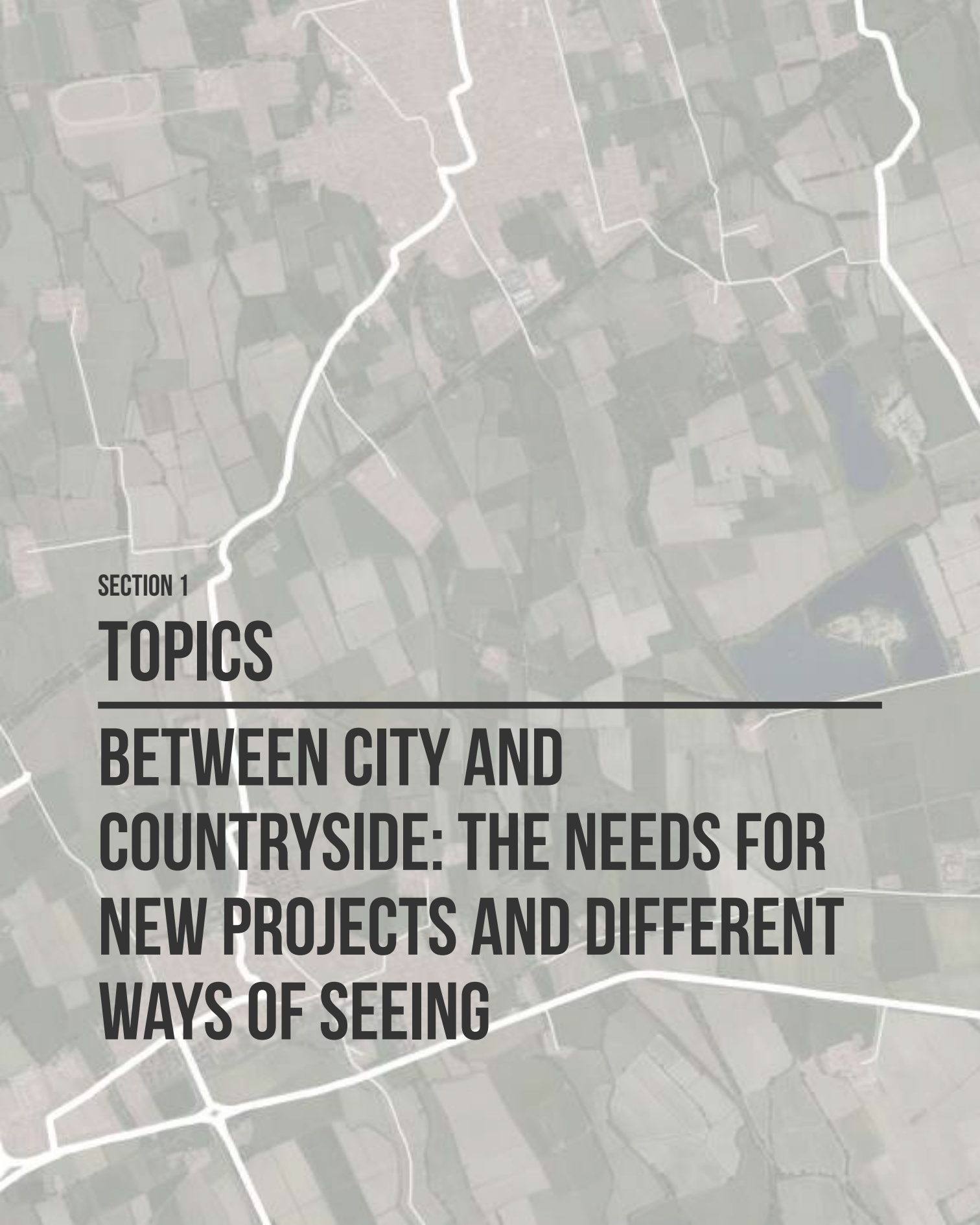
Boscoincittà / Parco delle Cave / Parco di Trenno and in-between spaces: Boscoincittà, Parco delle Cave, and Parco di Trenno are three parks which are the results of processes carried out by different associations both to design and to manage that territory. These processes involve several different groups: farmers, various associations (fishers, archers, ItaliaNostra), local governments (the Municipalities) and the users. Through various processes, these groups manage and take care of precise areas. Even though they involve public spaces, such care necessarily builds some kinds of borders that can produce spatial exclusions and selective use. Moreover the borders often create residual and marginal spaces. So between the 'clearly-designed' areas managed by these groups, the combination of the leftover spaces creates a potential connective system constituted by infrastructures and 'inter-places'. How can we manage and take care of these leftover spaces?

Piazza d'Armi / Parco Parri / Calchi Taeggi: in Milan's northwest urban pattern, we can recognise several empty urban spaces that characterise the urban morphology of the area, this is the result of urban growth which has been developed without a general plan or an overall vision. These empty spaces are mainly unfinished or abandoned urban sectors and parks which are underused. In this urban sector, open spaces are needed, but they do not have to necessarily be 'parks'. Such spaces, on the contrary, could become laboratories to experiment hybridisation processes of different environments: rural, urban and various different typologies of parks. Such 'unsolved' areas allow an opportunity to reconsider the nature of the open space. Moreover, we can reflect on the meaning of the possible role that productive agricultural activities could have to promote the territory's specific qualities. How can an empty urban space be a different model for urban-rural parks?

This publication is structured in five parts. The first part (Topics) reflects on the relationship between city and countryside and the need for new projects and different ways of inquiry within the territory. The second part (Places and policies) explores the territory of Milan with three articles and a photographic reportage. The third part (Proposals and insights) collects the projects developed during the workshop, creating a virtual dialogue with three contributions by scholars that we met with the aim of widening the horizons of each project. The fourth part (Good Practices) illustrates the Rungis project in France as a good example of a 'linking territories' approach. To conclude, the last part (Approach and working method) is a reflection about the 'research-by-design' approach and the *architecture des milieux* methodology. A final apparatus (diagrams and pictures) describes the different phases of our workshop, and provides a general account of the experience we had with the territories we have tried, somehow, to link.

NOTES

1 See Brenner N. (ed., 2014), *Implosions/explosions: towards a study of planetary urbanization*, Jovis, Berlin.; Bonomi A., Abruzzese A. (eds., 2004) *La città infinita*, Bruno Mondadori, Milano.
2 Cfr Donadieu P. (1998), *Campagnes urbaines*, Actes Sud /ENSP, Arles.
3 Cattaneo C. (1925), *Notizie naturali e civili su la Lombardia con altri scritti su l'Agricoltura nell'alta Italia*, Edizioni Risorgimento, Milano, pag. 104.
4 De Finetti G. (2006), *Milano, costruzione di una città*, Hoepli, Milano.



SECTION 1

TOPICS

BETWEEN CITY AND COUNTRYSIDE: THE NEEDS FOR NEW PROJECTS AND DIFFERENT WAYS OF SEEING

The increasing awareness about the relevance of the environment and the urban sprawl, suggests we consider agriculture as a fundamental resource for the city. Dealing with the urban and rural condition in a non-dualistic, banal and simply symmetrical way, urban agriculture could act as an alliance among farmers, local communities and authorities. In this new context, we can produce agriurban commons: material and socio-political constructions of general interest beyond the distinction between public and private property.

Moreover, thinking about the possible alliance between the city and the countryside means re-thinking the rich diversity within a living and productive landscape; including a mosaic of woodlands, wetlands, extensive tracts of open rural areas, and urban settlements. In this way, 'alter rurality' is a possible scenario that reconsiders the rural condition as a culturally advanced and complex contemporary subject to explore human dwelling.

NURTURING AN ALTERNATIVE PARADIGM TO REGENERATE RESIDENTIAL AREAS

Chris Younès

Faced with a certain modernity which, with an economy based on growth and profit, has favoured separation and exploitation, draining natural and human environments, we are called to a different social and political paradigm of reliance and another active ecology in order to optimise human impact on the natural environment and on the conditions for coexisting. In the construction of residential areas, it is now a matter of being able to adjust to contexts and to engage in local situations with their specific issues rather than proceeding with a tabula rasa or sticking to generic models or set formulas. In the age of sustainability, another type of architecture should be employed for relationship configurations and devices. Indeed, we must understand places' natural and cultural dynamics of interpenetration, interdependencies and inter-creation, whether they are between climatic, mechanical, chemical, biological or cultural factors. But when attention is focused on living, namely on the way of living in an environment, it can be described in terms of "between", creating a synergy between the party and everything else. The distinguishing limit, the spacing or gap which separates everything while retaining a certain proximity, the passages and porosity between things and beings, are its favoured spatial-temporal anthropological and architectural operators. Alter-methods of reliance[1] must therefore be explored such as alliance and coexistence devices.

THE TURNING POINT OF ECO-PRODUCTION AND AGRO-URBAN LIFE

In cities with a certain functionalist modernism, driven to divide and dichotomise things among themselves, how everything exchanges and enters into synergy has been forgotten. This is also the case for the heritage of commodification which has unceremoniously exploited and separated, contributing heavily to urban disasters[2]. In the mid-20th century, the economic historian, Karl Polanyi, sharply noted in his book "The Great Transformation"[3] how the widespread market economy was "disembedded" from society as a whole and called for it to be re-embedded. It is a matter of abandoning predatory productivism and inventing immersive mixed economies to regenerate residential areas. The arrival of ecology with the recognition of living organisms' interaction and their living environments goes against a toxic culture based on the unlimited separation and exploitation of resources. As highlighted by Gilles Clément, the urgency of environmentalist thought requires you «to immerse and accept yourself as a being of nature, to review your position in the universe and to stop placing yourself on top or in the centre but rather inside and alongside» (Clément, 2010). He calls to «turn to the evidence; if it is possible for man to adapt to ecological complexities in order to ensure his own sustainability on the planet, it shall happen within the most empirical of

experiences, step by step and not from an array of contradictory and at times dangerous policing documents from leaders' technocratic thinking». Other local and global links and other socio-political, regionally-based organisations are establishing themselves, created from intertwining dynamics, regardless of whether they are between climatic, tectonic, mechanical, chemical, biological or cultural factors. They refer to the whole and to parts, to singularities and to a totality incorporating and resulting from interconnected multiplicities, as well as to village, urban, metropolitan and intra-metropolitan restructuring.

The turning point of eco-production and human settlements therefore falls within a long series of technical and political transformations reflected by the city. The continuation of cities through space and time is certainly down to their ability to transform. Cities have never stopped rebuilding themselves through torment and turmoil or grasping territory beyond uniform urban objectives or brutalisation.

As Marx explained[4], all production is linked to concrete conditions: a particular area, a specific way of processing materials to make them useful to people; it follows a three-pronged plan involving the subject of production, the object of production or the raw material, and the tool or the means of production. If we take the most primitive form, pottery, we will find that it involves the potter, clay and the hands. If we consider agriculture, given that men cannot dig the ground with their nails, they have resorted to the plough; similarly, given that they cannot use this tool by themselves, they have domesticated animals. Human civilisation is built around a central component, force, which Marx called the development of productive forces. To increase work productivity (i.e. its output per unit of time), modern man has replaced animal or natural power, such as wind or water, with machines. Since their invention and use towards the mid-17th century, machines have now proven to have two problems: their isolation in terms of energy to maintain their force and the loss of a part of this energy in putting them into operation. These two elements, given how they are developing and starting to work on a global scale, now cause environmental damage: having pushed for the pursuit of energy sources at the expense of environmental balance (since coal mining in the 19th century up to modern-day shale gas extraction), and having resulted in the build-up of surplus stocks or unusable and harmful waste for mankind and ecosystems (from CO^2 to radioactive waste).

When man used his own strength or animal power, he was part of nature's ordinary processes and cycles. He could only produce what nature allowed him to and natural forces (heat, rainfall, soil composition, etc) used to play a key role in production. On the other hand, everything he produced could be used, either through his own consumption or by animals and plants. There was therefore a balance between production and consumption, with everything falling within nature's cycles. This balance has now been broken in terms of quantity and quality by machines and the associated globalised financialised productivism: by producing more than can be consumed and by creating new products which cannot be absorbed back into these cycles.

AGROECOLOGY AS A LIFE ETHIC AND THE REGENERATION OF RESIDENTIAL AREAS

Agroecology is a bedrock for rethinking human settlements from an eco-rhythmic and eco-political perspective. This means being on the lookout for ways to redefine urban, rural and natural places and connections. Many areas for action open up:

- The transformation of heritage separated by the interaction between cultures and between the human and non-human;
- The interweaving of scales between micro-places, towns, cities, bio-regions and globalisation;
- Adaptations in the digital age that can balance urban culture and agriculture.

Fundamental living urban materials must be redesigned with appropriate food crop production (vegetable growing, agricultural parks, forests, urban farms, garden rooftops, shared gardens, etc), but also through permaculture, short supply chains, water and soil management, recycling, various forms of energy, access to arable land, etc.

There are just as many possible conditions based on various practices, know-how, heritage and innovation, which fall within a change in ideas and value systems. Other successful forms of solidarity and sobriety can breathe life into productive projects of regional transformation. This paradigm shift

developed by many philosophers (Hans Jonas, Michel Serres, etc) involves how we feed ourselves. It has also been covered in a documentary by Coline Serreau: "Local solutions for global disorder"[5] focuses on possible alternatives, leading to the discovery of united agricultural self-supply to combat the damage done by an abused planet: landless farmers in Brazil, Claude and Lydia Bourguignon, agronomists known for their work on microbiological soil analysis, Kokopelli in India, or M. Antoniets in Ukraine, as well as Pierre Rabhi (1996, 2006) in France, an agroecologist and founder of the Colibris association, who are putting up a resistance and who share their experiences and love of life. However, it also shows how, after the Second World War, surplus explosives, poison gas and tanks were recycled for agriculture to the benefit of the chemical and oil industries. A war has been waged against the planet in the name of a "green revolution" and a productionist model, causing soil to die, the eradication of biodiversity, a massive rural exodus, malnutrition and famine by the confiscation of an essential common good: seeds and access to land. Fragile ecosystems and provisions that had helped feed humanity have been destroyed to set up an agricultural system which relies on exhaustible resources that are disappearing, such as oil. Many organic farming techniques invented throughout history by mankind (composting, mulching, organic fertilisers and pesticides, etc) must be rediscovered and put into practice in order to re-establish man's connection with a revitalised planet.

SHARED FERTILE RESOURCES

In this context of metamorphosis, an ethic of care appears vital. This concern for places and people leads us to focus our attention on strengthening forms of independence and on taking the solidarity process seriously to preserve environments and their living and productive landscapes.

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1 Edgar Morin has made the concept of reliance, namely "the work of links" and "the act of linking and its outcome", the stem cell of complex thought. See Morin E. (2004), *La méthode 6 Ethique*, Seuil, Paris.

2 See Paquot, T. (2015), *Désastres urbains: les villes meurent aussi*, La Découverte, Paris.

3 See Polanyi K. (1983), *La grande transformation* [1946], Gallimard, Paris.

4 See Marx K. (1857), *Contribution à la critique de l'économie politique* [ed. Editions sociales, Paris, 1972]

5 And the book Serreau C., Grivel P. (2010), *Solutions locales pour un désordre global*, Actes Sud, Arles.

URBAN AND RURAL ARE NOT SYMMETRICAL CATEGORIES. THE CHALLENGES OF THE HYBRIDIZATION PROCESSES

Paola Pucci

SUPERSEDING THE URBAN/NON-URBAN DIVIDE: TWO POINTS OF VIEW

Wondering about "the role of urban agriculture in defining new opportunities for sustainable development in the Milan Urban Region"[1] imposes to reflection on what rurality is today in metropolitan areas, what the boundaries between "rural" and "urban" are, not only because the borders are often fractal and practices have a cross-scaling dimension, but also because new co-habitation spaces between different "urban" and "rural" ways of life are emerging, redefining, in the end, the concept of rurality and its relation with the urban conditions.

To address these issues we can take into account two views, based on two different corpus of the literature.

From an "urban-centric" point of view, through this theme we can intercept some important issues on the transformation processes of the contemporary cities, in term of "urban regionalization processes" (Soja, 2011) and some challenges for urban projects and policy.

The multi-scalar regional urbanization processes, described by several authors (Soja, 2000, 2013; Brenner, 2013; Young & Keil, 2010; Sievert, 2003) and characterizing different contexts in the world, have highlighted the progressive erosion of the boundary between urban and rural, showing homogenization of the urban landscape, as well as an increasing differentiation and specialization of the peri-urban areas, with a disappearance of significant differences in lifestyles between "urban", "peri-urban" and "rural".

In this way, Neil Brenner (2013) questions an accepts understandings on the urban and rural, and argues instead for new urban epistemology that embodies «urban theory without an outside (…) to supersede the urban/non-urban divide that has long anchored the epistemology of urban research» (Brenner, 2013: 15).

These processes call for a new definition of "urban", whereby peri-urban spaces are conceived not simply as transitional areas located between urban and rural, between Town and Country, but rather as new and emerging forms of "urbanity" that bring into play new life styles, new forms of urbanity, summarized in the idea of "cityness" (Sennett, 2007).

Despite an increasingly dominant approach in urban studies, these processes pose new challenges for the analytical approaches and descriptions, as well as for institutional and governance processes, also because current research has mainly set out a new research agenda, but has not provided a sufficient theoretical and methodological 'tool kit' which allows for its application.

In addition, the universalizing vocabulary of planetary urbanism (Brenner, 2013) as it is called, can

be criticized for leaving hardly any room to decipher new and "emergent urban spaces", as well the reason for the open and agricultural spaces in these regional urbanization processes.

An alternative approach, consolidated in multi-year reflections[2] (Whitehand, 1988; Gant et al., 2011) should think about the consequences of the forms of hybridization between urban and rural, to understand the role of the urban countryside and the features of the urban agriculture and food planning in rethinking the settlement patterns and the functional specialization in metropolitan areas.
By focusing attention on the transformations of the traditional agricultural functions, replaced by new non–or post productive ones, and adding a consumption-oriented component (Marsden, 1999), some scholars (Wilson, 2007; van Huylenbroeck et al., 2007) pay particular attention to the relevance of multi-functional agriculture in peri-urban areas.
Due to the societal and lifestyle transitions in these areas, such as strong non-productivist tendencies that include local embeddedness, short supply chains, low farming intensity, and a high degree of diversification and open-minded societies (Wilson, 2007), the multifunctional agriculture in peri-urban areas – where agriculture is under pressure – can be an important strategy for linking the positive supply side to the normative demand side as a locally embedded model of agriculture (as described by van Huylenbroeck et al., 2007).
A proactive manner of planning urban and peri-urban agricultural landscapes, endorsing the reason of the open and agricultural spaces through the multifunctional development paradigm, makes it possible, in the urban planning approach, to surpass actions often oriented only at protecting the countryside, the prevention and promotion of urban regeneration.
This protectionist approach belongs to an outdated vision – even if in the past it produced significant results in restricting soil consumption – because this is not a "project for these spaces"; it ignores the conditions, requirements and constraints of agricultural production processes in peri-urban areas.
Also following this perspective, new analytical and design approaches are needed to guide policies and projects, to overcome passive protection, or finalized to enhance the existing situation or even to insert new natural figures according to a "formalistic" approach.
These processes call for new "alliances" between actors, farmers, and the communities involved, in order to stimulate the innovation of production processes, as well as the dynamics of productive integration of products in these peri-urban agriculture spaces.
The effort is twofold: on the one hand it is necessary to deal with hybrid forms of landscapes characterizing the peri-urban fringes, which cannot be treated with traditional urban design approaches. On the other hand, it is necessary to ensure the conditions for re-defining the peri-urban agriculture and its functions as a producer of goods and services for the citizens, and, at the same time, as profitable for the farmers, to cope with post-productive challenges.
According to Zasada (2011), if multifunctional farming activities refer to landscape management and agri-environmental production, to experience recreation-oriented diversification, social and organic farming, short supply chains and direct marketing, "the potential synergy effects between landscape management practices and other diversification measures remain underdeveloped" (Zasada, 2011: 644).
In this perspective, it becomes important to search for a "virtuous concatenation of a variety of small-scale projects supported by a frame of structuring spatial and economic choices and synergistic policies, forced to be faced with scarcity of resources" (Gasparrini, 2015: 35).
This also implies solving the gap between the urban policy domain and the agriculture policy domain that are often not place-based, also because food system governance and planning had for a long time no relation with urban planning and policy making (De Shutter, 2014).
This is a relevant issue, taking into account the breakdown of the European Union support for rural development in the European Countries[3], as well as the needs for coordination and integration between local communities, farmers, authorities and stakeholders in implementing the multifunctionality paradigm which modernizes peri-urban agriculture.
Following Donadieu (2013), «the agri-urban forms are built with the economic and political forces that want to produce the compact city with agricultural forms, in a democratic way with the designers, with farmers and with the inhabitants. Therefore, it is the governance of urban projects which co-produces the agri-urban forms»[4]. In this direction, some international experiences show the in-

terdependence between strengthening of peri-urban agricultural areas and a possible integration with planning and design tools, as in the case of London's Metropolitan Green Belt described by Gant, Robinson and Fazal (2011).

WORKING ON THE BORDERS: THE INTERPRETATIVE CHALLENGES

Starting from the assumption that urban and rural are not symmetrical categories, because what defines the city and its territory is no longer what by opposition defines agriculture, we can grapple with the urban and rural in non-dualistic ways, highlighting the landscape at the city edge in its own right, beyond the rural-urban divide.

Dichotomous accounts neglect the complexity, values and conflicts of urban-rural fringe landscapes and propose an idea of fringes as a phase rather than a place; a phase in an unconditional urbanization process.

The blurring of urban-rural boundaries blend and form new types of landscape which are neither rural nor urban. If these conditions are shared by both the points of view introduced in the previous section, however, the looks addressed to the agricultural areas in peri-urban contexts are different.

A first operational step towards searching and managing the nexus between urban-rural transition is the study of the urban-rural interfaces.

Searching for urban-rural interfaces makes it possible to recognize the mixed character of these areas without fixing them on a single and simple gradient (Ravetz, Fertner & Sick Nielsen, 2013: 17), and, at the same time, leads to work on the borders that became a site of investigations about the nexus between urban-rural transition.

Working on the borders becomes strategic from a project-oriented viewpoint.

This is because, according to a well-established literature[5], the border is not static, but fluid, established and, at the same time, continuously crossed by a number of practices and relationships that highlight endless definitions and shifts between inside and outside, urban and rural.

Borders can therefore be created, moved and deconstructed by a range of actors, because they are constantly reproduced as part of shifting space-society relationships and the bordering processes they entail (Brambilla, 2014).

Based on this condition, identifying and interrogating the features of the borders between rural and urban, how they function in different settings, with what consequences and for whose benefit, makes it possible to explore landscape transformations at the fringe, as well as recognize the potential of peri-urban areas in accepting various demands and preferences for multiple goods and services related to the possible forms of agriculture.

This approach will offer a multifaceted analysis of urban-rural interfaces, which in turn will facilitate a more open discussion on land use and values within planning, because borders, as dynamic social processes, are interpreted as design tools, useful also for dealing with the governance process, to interpret and regulate the transformation processes in times, places, social life and work programs.

In this case, working on the borders and their variabilities offers a way to analyze landscape transformations at the fringe, identifying what is - in any single contextualized situation - the right scale from which the urban-rural transition can be observed and planned in a pertinent way.

The challenges still remain in the operational understanding of the effects of these borders on the "formal hard spaces of governmental activity" (Haughton et al., 2010: 52).

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NOTES

1 This is the goal covered by the Design Workshop held during the PhD Course in Urban Planning Design and Policy at Politecnico di Milano. The Milan Urban Region is an extensive area which goes beyond the institutional borders of the metropolitan city of Milan, representing an alternative territorial organization to the metropolitan area, characterized by a more complex model of settlement and relationships between urban-rural areas.

2 According to Gant et al. (2011), the notion of "urban-rural fringe" first appears in literature by geographers and planners in 1930 in UK at the time when there was great concern over the loss of agricultural land to urban sprawl.

3 According to the overall amounts of the Multiannual Financial Framework (MFF) for the period 2014- 2020, approved by the European Parliament on 19 November 2013, the breakdown of Union support for rural development (2014 to 2020) is 95,577,051,994 euros in the 28 countries (source: http://ec.europa.eu/agriculture/cap-funding/budget/mff-2014-2020/mff-figures-and-cap_en.pdf). As known, the expenditure for agriculture and rural development is financed by two funds, which form part of the EU's general budget. The European Agricultural Guarantee Fund (EAGF) finances direct payments to farmers and measures to regulate agricultural markets such as intervention and export refunds, while the European Agricultural Fund for Rural Development (EAFRD) finances the rural development programs of the Member States.

4 "Le forme agri-urbane si costruiscono con le forze economiche e politiche che vogliono produrre la città compatta con le forme agricole, in modo democratico con i progettisti, con gli agricoltori e con gli abitanti. E' dunque la governance dei progetti urbani che co-produce le forme agri-urbane" (Donadieu, 2013: 138).

5 See the Border Studies literature and, in particular, Brambilla (2014) on the conceptual evolution of borderscapes concept in the Border studies.

BUILDING AGRIURBAN COMMONS

Pierre Donadieu

Most urbanised countries are now focusing on the issue of food security for people living in cities. The right "to have physical and economic access at all times to sufficient, adequate and culturally acceptable food that is produced and consumed sustainably, preserving access to food for future generations" was covered by a report to the UN Human Rights Council (De Schutter, 2014). Most governments and elected representatives of public bodies are not indifferent to the issue.

Within this framework, one of the directions of urban regions public policies involves developing local food systems which can, in part, free themselves from their reliance on remote supplies that consume large amounts of fossil fuels and produce greenhouse gases, while resolving local economic and social crises. In this paper, these community and non-community practices shall be described as urban and suburban agriculture and gardening.

Given that the thinking behind urbanism has exiled agriculture from urban areas for 150 years, especially in developed countries, the main question is why and how is it coming back or staying, and in what form?

The first idea developed in this paper is that there are two major categories: agriculture and urban horticulture (professional) and urban gardening (primarily amateur). A distinction must be made if we are seeking to feed people in cities through local agricultural production, while benefiting other services in agriurban areas and landscapes: in particular, ecosystem services (or ecological, environmental and social services).

The second idea relies on the notion of agriurban commons inspired by the concept of the Common taken from the eponymous work by the philosopher, Pierre Dardot, and the sociologist, Christian Laval (2014): i.e. recognised material and immaterial resources produced with farmers and gardeners for and by inhabitants for their local consumption, their quality of life and their well-being. This involves varying support from public authorities.

AGRIBUSINESS, FUN AND SUBSISTENCE

Agribusiness and amateur gardening

There are two ways of producing food in and around towns for the people who live there. The first way, the largest in terms of producers, retailers, economic weight and surface area, involves farmers, agricultural entrepreneurs cultivating the fields with "natural" soil or hydroponically in greenhouses. They produce for the local market (markets in town neighbourhoods or shopping centres) or distant markets in the same country or for export.

They are market gardeners, winegrowers, fruit and flower growers, cereal and livestock farmers, nursery growers, etc. Some work the fields while others use greenhouses, sometimes under roofs. Their job is a business, an agribusiness. Some in Europe receive aid from the Common Agricultural Policy, while others seldom do or do not, such as livestock farmers, market gardeners or winegrowers.
The second way, albeit very small in terms of number and surface area, is by amateur gardeners. They cultivate allotments and associative or community gardens, occasionally under unstable or temporary conditions. There are large numbers in northern and central Europe and they are spreading across North America, although there are much fewer around the Mediterranean. Their goal is not business but rather subsistence (self-supply), activism (green guerrillas) and/or the joy of company, the pleasure of growing your own food in your neighbourhood with others, but also showing solidarity towards people who need your help.
This commercial farming and non-commercial amateur gardening covers a section of open spaces - undeveloped spaces in urban areas - which often give inhabitants the most appreciated natural landscapes. They are often mixed with woodlands, derelict land, gardens and public or private parks and therefore produce two types of agriurban landscapes: for subsistence, landscapes of survival often unregulated such as in Portugal or Spain with the economic crisis; for leisure, enjoyment, teaching or friendship such as in Paris or Berlin with so-called shared, community or associative gardens. There were about one hundred in Paris in 2014 next to buildings, in disused railway lines, public parks and schools, having been heavily promoted by public urban authorities. They are primarily social places, but people can also learn the lost relationship with wild or cultivated nature. Sometimes you can also learn a profession there. They are often lifelines for broken lives and towns.

A new agriurban order: a paradigm shift?
Public authorities intervene more or less depending on local political situations. In Switzerland, city authorities occasionally take charge over production sites, such as the city of Lausanne's vineyards, or in Geneva, an urban region which has staunchly protected its farmland from urbanisation since the 1960s. On the other hand, in Québec, they still keep a very low profile, other than to protect farmland as in Montréal.
City authorities and many inhabitants do not like anything untidy, threatening or destitute, such as garden sheds built as gardeners so please. In France, people like the order of allotments, such as in the new town of Saint Quentin-en-Yvelines in 1985 or in a public park in Angers in 2002.
But on the whole, agriurban order is produced by private agricultural holdings on land that is generally poorly protected from urbanisation. In France, 50,000 hectares of farmland are disappearing on average every year. Legal protective measures are in place in almost every country but they are not enough to contain the pressure of urbanisation. Only concerted political effort, very high environmental risks (flooding), high-powered legal safeguards (on the Versailles plain and in Bièvre valley to the west of Paris) or exceptional wine industry profits (such as in Bordeaux) can contain cities' urban sprawl.

At the end of the day, the challenge for elected representatives, experts and inhabitants of urban regions is quite simple: how do you move beyond choosing between the freedom of having your own agricultural property and building common agriurban goods, which benefit everyone, on private or public land.
The agriurban commons which I am talking about here are not collective or community goods, they indicate material and socio-political constructions of general interest beyond the distinction between public and private property. They are built together to meet public interest: relying on fertile agricultural land and gardens used for food and sustainable local services (short supply chains, pick-your-own crops and shared gardens). But they also use sophisticated technologies (hydroponics, aquaponics and vertical farms) in soil or on rooftops. Agriurban commons are real answers to the issue of easy access to healthy local food. They can be public, associative or private.
These new practices represent a radical paradigm shift for urbanism as you then have to turn cultivated soil, crops and livestock, as well as farmers and gardeners, into permanent urban resources. They cannot be exiled outside town, as has happened during over a century of hygienic modernism. This ethical principle has undoubtedly had its day. The recommendation is now to adopt a more

pragmatic, consequential approach: research for everyone, all the goods and ecosystem services that bring a wide range of urban agriculture and gardening to people in cities. Because these people are not only consumers but, simply put, inhabitants who wish to live where they are. The prevailing reality of the current city – a compact, noisy, stifling, congested agglomeration without any eco-agriurban networks – no longer allows this, except at the cost of regional inequalities and flagrant segregation.

BUILDING AGRIURBAN COMMONS

Generally speaking, the city developed in the 20th century is no longer viable. A new one must therefore be invented or existing cities must be adapted using a simple principle known by every town planner and landscape architect: the principle of interconnected park systems developed by Frederick Law Olmsted in the United States and by Jean-Claude Nicolas Forestier in France in the late 19th and early 20th century. Nowadays, it is about wooded and agriurban systems in public and private spaces which include current and future agricultural and gardening spaces. They are now called ecological networks or green and blue belts in France. They are designed on an urban regional scale (urban and suburban) following the scientific landscape ecology work conducted by Richard Forman and Michel Godron (1986) on the conditions for restoring regions' wild or cultivated biodiversity. These undeveloped spaces are designed to provide essential services to the town and the people who live there: agriculture for food, vegetation for regulating urban micro-climates, an unbuildable space for regulating environmental risks (flooding, fires, biodiversity erosion, groundwater pollution, etc) and leisure activities, while also removing excess carbon in the air thanks to soil and vegetation. There are just as many shared concerns and material commons to build locally with stakeholders, owners, producers and consumers.

The main idea is to move beyond the clash between absolute property rights (usus, fructus and abusus) and user rights (production, regulation and societal services) offered by undeveloped land. The political framework of this move involves regional governance of association and private agriurban projects, insisting on decisions and rules concerning public access, whether they are consumers or not, to productive agricultural spaces. They can also involve areas of grassland and poplars, such as the valley flood plains of Angers, or circulation in orchards and vegetable gardens (Versailles), in vineyards (Lausanne) or in cereal farmland (Geneva).
The development of urban and suburban agriculture and gardening should therefore work together with the policy of ecological and wild or cultivated biodiversity networks. These practices and policies are already in place in Europe, but they have been slowed down by the need for housing which sadly irreversibly consumes too much precious agricultural land and by the lack of coordination for public action among naturalists, landscape town planners and agronomists.

Organising urban growth and preserving open spaces

The key priority behind potential agriurban commons is local recognition for preserving arable and wooded land according to continuing urban and suburban geographical features. It begins by indicating the desirable use of land on a map in town planning documents. A town planning policy has been in place in Île-de-France for at least forty years. It initially ignored agricultural spaces; but today it includes a regional plan of open, agricultural and forest spaces (undeveloped), which creates a political framework for the work of elected representatives in local municipal town plans. Moreover, the regional land borders policy (PRIF) allows the Green Land Agency to purchase the most threatened agricultural and natural areas. The same applies for all the authorities in France that have been given a regional urban plan (SCOT: schéma de cohérence territoriale) for about ten years, such as the urban community of Montpellier which has had one since 2004.
Without this legal and institutional framework, which explicitly recognises and demonstrates the general interest of local food and its associated services, it is very difficult for elected representatives to oppose the urbanisation of open spaces and to make a case for reasoned agriurbanism.
What farming and gardening do public authorities need? This is the second key point.

Urban farms: vertical or horizontal?

We have known for about fifteen years that it is theoretically possible to build vertical farms (or production units). They primarily use the hydroponic crops model which has been mastered by horticulturists, in particular, for greenhouse crops. Yet investors are still very cautious and these tall constructions have barely seen the light of day, other than in modest form in Asia (Singapore and China) and upcoming in the Middle East. It is certainly possible to grow vegetables, fruits and flowers in this way, but the intensive rearing of chickens, pigs and cows is much more controversial.

This is why the classic solution of horizontal farms located in green urban networks is much more preferable, as is the case with the choice of a circular economy at Gally farm or with the major Viltain dairy farm to the west of Paris, next to the future Paris-Saclay University campus. However, there are several conditions: certain ethical rules for agro-ecological production, whether local or not, must be respected, i.e. animal welfare, restricted or banned pesticides, organic farming, recycled water, short commercial supply chains, organised public access, the lease of vegetable gardens, etc.

It is also conditional upon the removal of handicaps in these extended agricultural areas which force professional farmers to relocate far from towns: clean running of agricultural machinery, local technical and veterinary assistance, storage buildings and, in particular, opportunities for processing their agricultural and agri-food products locally.

Finally, there must be little uncertainty on the future of agricultural land ownership in the medium-term. Anyone who invests in agriculture cannot buy their machinery and livestock, fertilise their soil, rotate and choose their crops, guarantee quality products and customer trust if they do not own or rent their own land. European countries have very varied legislation on this issue, which allows the use of undeveloped land to be governed as a region's common land. This is primarily for environmental reasons (biodiversity, climate control, etc) but also for agri-food. As I have mentioned, there are private and public land agencies which help establish agriurban and agri-forest networks. This is the case in France, for example, with land development and agricultural establishment companies (SAFER), or with departmental taxes on new housing which help create "sensitive natural and agricultural spaces". However, all these tools are not enough to stop the consumption of suburban farmland by urbanisation.

The ideal scenario would be to turn farmland and its uses into ("natural") agriurban commons as clearly defined as urban forests, parks and public gardens which no one disputes. Given that this idealism will not become a reality for now, a pragmatic, if not pragmatist, approach needs to be adopted: experiment, assess results with inhabitants, elected representatives and farmers, and then improve practices and new projects for everyone's greatest benefit.

Which form of regional agriurban governance?

If the agriurban world is to become a reality and not remain a utopian dream, it must be shared with the people involved. The city of Rennes (400,000 inhabitants) is a prime example. For almost 20 years, its elected representatives have wanted to build an agriurban archipelago together with town planners, farmers and landscape gardeners: i.e. urban islands in the middle of Brittany's wooded farmland, small towns and a centre linked by road and rail infrastructures (underground system). This project for a countryside town, an agricultural town, or an urban countryside (Donadieu, 1998) has been shared by elected representatives and inhabitants.

Farmers have grouped together to produce and sell their livestock, vegetable and fruit products, whether processed or not, to the nearby town and beyond. People live in urban regions where farming is part of urban life, where town planners and landscape gardeners have worked to set up green and blue networks, as well as pedestrian and cycle paths, and where the "chamber of agriculture" has supported the implementation of short commercial supply chains and has organised production and processing chains. Tensions remain, particularly on the property market, but the idea of an agriurban region is now becoming a reality.

An important practice has spread throughout Europe over the last thirty years, pick-your-own crops, which happens, for example, in the urban community of Versailles Grand Parc with an area of 50 hectares run by the suburban Gally farm. It is a form of a very short commercial supply chain, which puts the producer in direct contact with the consumer and is an enjoyable part of country life. Little

variety of crops were initially grown but the number has increased considerably today, occasionally reaching over 50 to 60, due to the growing demand among customers.
There are other important agriurban practices in urban regions' agricultural dynamics: educational farms, horse riding farms, agritourism or urban bee-keeping. Inhabitants are occasionally invited, almost like something from another era, to farms or grape harvests, as is the case to the north of Montpellier at a vineyard purchased by the urban community. It is impossible to think of these pleasures in aseptic vertical farms!
Sharing your garden next to your city home with others becomes a relative luxury which the city of Versailles is encouraging in poorer neighbourhoods. Being able to meet your garden neighbours breaks up isolation, while rediscovering the rhythm of the seasons, the working of the land, the joy of eating your own vegetables or giving them to others: there are just as many precious commons as inhabitants have been using since the last world war. 150 people receive a salary from a social integration contract. Can vertical farms offer these solidarity services?
Being able to admire the countryside while living in and strolling through the town is a joy which European city dwellers have been deprived of by town planners since the late 19th century. In the Netherlands, an urban country if ever there was one, these amazing delights can still be enjoyed in spring with blue fields of hyacinths as far as the eye can see.
Another slightly utopian idea linked to sustainable development is now spreading across metropolitan regions: locavorism, i.e. the search for a relative food self-sufficiency for towns in terms of the most vulnerable goods, notably fresh produce. For this to happen in the city of Rennes, all the green spaces would undoubtedly have to be converted into farmland. And that would not be desirable, except in an extraordinary crisis (such as war).

CONCLUSION

The construction of agriurban commons is already under way. It is happening in a wide variety of forms depending on whether the activities are commercial or not. In the first case, agriurban activities can raise major financial investment and innovations in built-up cities (greenhouses on rooftops in North America), as well as private producer initiatives or the diversification of farm production (short supply chains, street markets, the lease of vegetable gardens, etc). In the second case, the gardening activities meet a wide variety of objectives, in particular social ones: subsistence from self-supply, the pursuit of enjoyment, friendship and solidarity, particularly among people in hardship (refugees, the unemployed or isolated people).
In any case, even the most profit-oriented, public and private interests can come together in institutional solutions (land, planning or commercial regulations). It will then be a matter of using good economic and/or social results to identify viable ways of appropriating spaces, in terms of land law, but also making space your own (appropriating), i.e. adapting it for a variety of uses and needs.
There are therefore commercial agriurban commons (agriculture and horticulture, whether organic or not, for profit) and non-commercial agriurban commons for societal and social resilience objectives (self-supply, education, leisure time, friendship, health, etc). Some of which (organic agriculture and associative gardens) fall under agro-ecological commons because they are able to produce cultivated or wild biodiversity. Most have ecosystem services for the town and the people who live there (thermal and hydrological regulation, waste recycling, etc). These goods and services can be aimed at everyone (bioclimatic commons for example), but producers can target very different food consumers depending on their credit.
However, possible "agricultural city" models are not yet stabilised. They cannot be separated from "nature city" models which involve continuous ecological networks of parks, gardens and agricultural or wooded spaces. Open landscapes and spaces must be planned on an urban regional scale for these agro-ecological infrastructures, assuming that regional production and processing chains are partly focused on local urban markets.
Tomorrow, more than ever, it will be an issue of organising profit targets in these spaces, as well as governance objectives for physical common resources (agricultural land and water) and social objectives (food security and health). Eco-districts could become agriurban neighbourhoods by rethinking the use of public spaces to the benefit of gardeners.
In most cases, it is by handing the floor back to inhabitants and new agriurban actors that consumers will be able to regain control of their destiny and become producers who pay attention to

their food and to the climate and energy transition. "Glocalising" agriurban activities in new social networks can now only happen through the free conscience of active inhabitants supported by informed public action. This is rarely done, if at all, by public orders, however virtuous, but rather with the recurring flaw of often being restricted by electoral timescales.
In this new context, designing and creating agricultural cities in original forms is still a challenge of the 21st century for developers: landscape architects, agronomists, ecologists and town planners. This practice has existed in France since King Louis XIV asked the architect, Jules Hardouin-Mansart, and the gardener, Jean-Baptiste de la Quintinie, to install a 10-hectare orchard garden next to his palace in Versailles. Why not remobilise these skills in a contemporary framework of local democracy and inhabitant initiative?
Why not design the framework, if not the agriurban environment, with landscape architecture and urban agronomy tools and concepts (POUR, 2015; Duchemin, 2013)? It will then be a matter of showing the most technologically advanced agricultural and gardening activities to the most traditional, putting them in place and enhancing them for their social, economic, environmental and cultural roles. The exact opposite of what has been done in the 20th century. They can therefore be adopted by most inhabitants and not remain mere utopias. The latter have now become realistic for a very wide range of local food product consumers (5% of the population, for example, in Montréal in Canada, but 60% in Kazan in Russia where a tradition of allotments has been in place for a century).

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PREPARING ALTER-RURAL IMAGINARIES. BEYOND URBAN DENSITY AND GROWTH ECONOMY

Pieter Versteegh

ALTER-RURALITY AND THE URBAN

AlterRurality is a moving constellation of concepts, natures and practices generating new potentialities for human settlements inspired by rural values (Versteegh, 2015). The term emerged within the context of an increasing sense that there is something wrong with ways human settlements evolve. More and more alternative ways of producing living space emerge, a clear signal that an introspection into the core of habitat is on its way. The growing awareness that we have entered the 'anthropocene' is correlated, as well as, perhaps, the changing paradigm that inhabiting is not some passive notion but involves an active posture of intertwined psychic and physical co-constructions, intrinsically connecting to original conditions of human habitat (Versteegh, 2016).

The main drive behind alterRural research is a feeling of unease with the current predominantly urban conception of human habitat and, as we will try to open up, its relationship to world economy in general. A perception is dominating our professions and academia, that every single place on earth is becoming urban, and that a dense urban future of human habitat is to be strived for. The urban has become a synonym of wealth, culture, progress, democracy.

Current research is showing an other reality: the contemporary urban also increases the rift between wealth and poverty, leads to segregation (ethnic, generational) and health problems including psychosis and obesity, contributes to a decline of care and to social abstraction, to religious radicalisation, to violence and terrorism. The urban that corresponds to our desire is a mirage inhabited by a privileged minority, whereas many dwellers live in an urban jungle, helplessly facing a certain material, environmental, social and professional misery more and more reported as psychologically oppressive. After the end of history, urban realities face a collapse of future.

The adduced exclusively urban future of human habitat is by no means an ideal one. It is more, as we will try to see, a professional and political desire and demagogy motivated by the preservation and continuation of world growth economy.

EVERYTHING IS URBAN AND THE RURAL DOES NOT EXIST. IS THAT SO?

Swiss architects and territorial planners believe that Switzerland is an urban territory (Confédération Suisse, 2016. Taking the train across Switzerland gives you the opposite perception. Continuing through Italy, France, Spain, and back through the north, you will be crossing urban and rural areas, exquisite forests and fields, and – true – many 'in between' areas of urban, industrial and commercial 'sprawl'. You will probably travel from city to city, because that is how transportation is organized.

Figure 1 | 'Cow Drive'.
Source: open web

And you will halt in these city's centres, all of them centuries old. There are no new cities in these countries, for the simple reason that our contemporary urban has been and still is generated as a peripheral predicament (Versteegh, 2005). Most of you will not stop in 'con-urban' areas: your desire follows an subliminal imaginary of the city that is rooted in its historic model and place. You will hence punctuate your journey with such historic centres, rural areas and natures, avoiding contemporary production of human habitat as much as you can.

Still, many professionals such as architects, urban planners and geographers advocate that the entire earth's territory is becoming urban. Rurality, one hears, does no longer exist and should not be used anymore as a category in order to describe or conceive human habitats. This claim curiously always stems from professionals of the urban. Explanations sound like this: 'everything has become urban, because urban dwellers have touched upon every part of the earth'. This argument, if not rooted in colonialist behaviour, should be invertible. Hence parts of Geneva become rural when sheep or cows graze on fields in its centre, urban dwellers signing petitions in order to have their bells withdrawn. Or: 'there is no rural life left, because farmers have urban lifestyles, with television, internet, mobile phones and so on'. This is amazing reasoning: under what pretext can one claim these technologies to be urban? Why create this confusion between urban lifestyle and access to advanced technology? Another argument: 'peasantry does not exist anymore, all food production has been industrialized, needs to be industrialized if we want to be able to feed the entire planet'. Well: more than half of the world population is a peasant population (Calame, 2013), a majority of European food productions is not suitable for industrialisation, its activity remaining highly peasant-like, and a new highly creative peasantry is developing itself (Streith, 2011). Small scale peasant exploitations are not less productive than industrialized ones – they are only more labour-intensive (Versteegh, 2015). Rural lifestyles, although not valued today by professionals of architecture and territorial planning, still exist: the rural is not a fixed state but something constructed and performed through discursive processes (Cloke, 2006).
We are being told that more than half of the world population lives in urban areas, some even conclude in cities. There are some arguments against this perception, however.
First of all, there is no consensus on what it is that qualifies the urban. An urban area is a «location characterized by high human population density and many built environment features in comparison to the areas surrounding it» (see Wikipedia). Mostly, quantitative statistics are used that are based upon the administrative organisation of space. In France for instance, a territory is urban when a commune or communal administration exceeds 2.000 inhabitants. For Switzerland this number is 10.000, for Algeria 20.000, in the U.S. 50.000, but in the year 2000 smaller clusters of more than 10'000 were added. In Australia and Canada the number is 1.000, but the population density must exceed 200/km2 for the first, 400 for the second. In Japan the density must be at least 4.000/kmq. In Nordic countries, places totalling at least 200 are urban provided that the distance between buildings does not exceed 200 metres. In India all places with a municipality, corporation, cantonment board or notified town area committee are urban, plus all other places with minimum population of 5.000, at least 75% of the male main working population engaged in non-agricultural pursuits, and a density of population of at least 400 persons per kmq. The entire territory of the Netherlands complies to this, but this country itself censes numerous rural areas, including in the centre of its main metropolitan area.

Figure 2 | Le Mouret (CH), urban territory (after merger), Source: open web

Within these statistics, village mergers, a growth economy product, are used for producing urban space without any spatial transformation. Faster than mere birth (although birth of the 10.000th inhabitant of a Swiss village turns the 9.999 others into urban dwellers, and the surface they occupy into urban territory), mergers lead to a statistic urbanization of a territory immediately required to follow administratively regulated urban planning by urban planners. I will not develop here the disastrous effect this has on the construction of local identity, the destruction of rural lifestyles, the disfiguration of landscapes.

URBAN DENSITY DISINFORMATION

In order to support urban habitat it is often said that, while hosting more than half of the world population, it only occupies a tiny part of its space, and can hence be considered to be an economic habitat for growing populations facing the finiteness of world's resources.
Nothing is less true. Unless of course we continue to use the statistics of numbers of inhabitants per surface unit in an isolated way: as if inhabiting could be reduced to such a narrow understanding, that is to numbers of individuals whose spatial impact equals to an administratively registered and passive – non consuming – presence.
Living in the anthropocene, it is hardly possible to maintain this understanding. We are well aware today of the fact that an inhabitant of a city has needs and behaviours that imply a systemic use of space that exceeds his 'physical' imprint within an administratively confined entity. While living in a city, we generate throughput (Calame, 2015), the importation of food, energy and other resources produced 'elsewhere', and the exportation 'elsewhere' of all kinds of waste and by-products, this 'elsewhere' being particularly greedy in space.
The urban generates many by-products. Among them, the production of retreat space from cities become too hostile for well-being, for permanent living. One just needs to look at the evidence of traffic leaving cities for leisure, week-ends and holidays. Congestion, unnecessary mobility and pollution are collateral urban features. «Urbanization continues to drive increased congestion in many major cities worldwide» (Inrix, 2016): 8 billion hours lost in traffic congestion in the US only, 100 hours per commuter in London, where 20% of workers spend a full working day per week in transportation. A car hence pollutes twice as much in London than in rural areas. Increasing electric car use only exports this pollution to rural areas where the electricity and the batteries are produced (NBER, 2016). We still have only but a slight idea of what urban is, or what it does to us.

We are starting to be aware of our ecological footprint of living, a spatial impact that exceeds our mere physical and administrative presence in urban or rural environments. A Paris inhabitant occupies 47mq in the urban density model, but his ecological imprint is more than a thousand times that value. Inhabiting involves a 'holistic' imprint that transforms our understanding of habitat as urban or rural but that varies according to such environments. As long as this spatial imprint exceeds the corresponding living surface it inevitably deconstructs the contemporary urban as a confined and encompassing category of habitat.
This deconstruction starts with the observation that the urban habitat probably has lowest economic density, that it bares the highest cost, since it is ecologically greedy. It is parasitic, from παρά (besides) and σιτος (food): «an organism that lives on or in another organism, deriving benefit from living on or in that other organism, while not contributing towards that other organism sufficiently

Figure 3 | Escape the city,
Source: open web

to cover the cost to that other organism» (wictionary): in this sense, the perception that the urban occupies a tremendous part of earth is true – and menacing. It makes no sense to speak of urban density as a desirable factor for the development of human habitat for as long as the ecologic imprint of the human dweller exceeds that of, let's say, a rural lifestyle – especially in the perspective of communication society in which the excessive concentration of populations is no longer a need but is mainly driven by inertia of urban imaginaries and metropolisation.
A redefinition of the critical scale of human settlements is at stake.

URBAN AND ECONOMIC GROWTH, A SELF-FULFILLING PONZI PROPHECY

The censes and discourse used for the analysis of the progression and promotion of the urban are thus designed in such ways as to confirm and enhance this progression and promotion: they are hence demagogic tools for a collective construct of a predominant urban imaginary of human habitat. Real urbanization is more complex in terms of its characteristics and quality.
The main motivations behind this construct are and/or a constraint to maintain economic growth as the main drive behind the contemporary phantasy of welfare. The only way to maintain this notion of welfare is to uphold economic, hence demographic and urban growth, since world economy is built upon growth as a structuring principle. Growth economy has taken the structure of a Ponzi scheme, made famous by the Madoff affair. « A Ponzi scheme is a fraudulent investment operation where the operator, an individual or organization, pays returns to its investors from new capital paid to the operators by new investors, rather than from profit earned by the operator» (see Wikipedia). Growth economy's justification flagships: social security and health care, only function through the deferral of its financing to growing future generations: they only escape the definition of Ponzi schemes through the fact that they are (still) considered legal. Many multinational companies, first in line those active in communication technology and social media, function on similar basis, leaning on a continuously postponed belief that they will one day generate intrinsic value and profit. Any turnover decrement is immediately punished by stock markets – by themselves nothing but legalized casinos (Hayek, 2015). The construction industry follows Ponzi schemes, be it when granting subprimes (U.S. and Europe), when stubbornly building housing and office space in demographically stable areas in order to avoid crisis (Switzerland, the Netherlands), when moving hundreds of millions of peasants to newly built cities in order to maintain growth (China) (UN open streetmap, 2010), or simply when demagogically installing new security or energy norms (for instance requiring a short-term replacement of all glazing in Geneva while completely neglecting the overall energy imprint of such an operation).
It is the current globalized economy that has organized the urban territory, and it has done so according to its own mechanisms. Many cities and nations have no political choice but to organise demographic growth in order to finance their exploding growth-generated infrastructural cost, without any relief in sight. New housing calls for new schools, roads, technical equipment, calling for new housing, jobs and so on. They are built Ponzi-schemes – it is no surprize that they also 'look' like Ponzi schemes.

But let us leave the tertiary and secondary economic sectors: if the essence of a healthy economy is the «profit earned by the operator», that is the adding of 'value', it is quite disturbing that the core human added value, the production and transformation of food and of natural resources are the ones

Figure 4 | The Ponzi city organisation (open websource image), Source: open web

that do not fit into the current economic system. The primary sector does not comply to the rules of the globalized financial and monetary economy. Complex, opaque and highly contested subvention systems are (ab)used to 'regulate' food and energy production. Food is still not available to everyone and too expensive in certain parts of the worlds. Elsewhere, like in Europe, it is far too cheap.
In less than one century, the average European family food budget decreased from 80% to 12% of the income (Insee, 2015). A leaf of bread, by comparison, should cost 50€ today. Not only is food too cheap, its entire cost increase over the last century was absorbed by trade, transportation, logistics and publicity (Calame, 2013). Many food productions, let alone labour-intensive ones, are not viable in the current economic growth system. These are clear signs that the world economy – today reduced to a financial monetary one – does not comply to its own underpinning and that it is artificially maintained in order to avoid its collapse.

TOWARDS AN ALTER-RURAL ECONOMY

Economy, let us recall in its etymological sense of οικος-νεμειν, is the naming, the use of the house, the division of pasture, the management of resources, where management is closely related to the French 'ménage': housekeeping. Architecture and economy share these values.
Both in terms of habitat and in terms of economy, there is hardly any critical debate on the question why human habitat should continue to follow this political economical and urban lead, why one should support this evolution, or what other forms of habitat/economy it is erasing or preventing to emerge. With this respect, shrinkage is not synonym of recession, but a real stake and opportunity to explore alternatives for the future of human habitat.
What can alterRurality teach us in this situation?
The counterpart of the observations above is that rural lifestyles may inspire high quality, contemporary and advanced settlements in terms of socio-economical and ecological density, because they search to maintain sustainable, reasoned and critical scales. In demographically and economically shrinking regions (Ruhr, Detroit, Spain, Portugal), new practices emerge that find their roots in rural ways of being - in renewed contracts with nature. Rural areas can reach higher rates of self-sufficiency in terms of resources, food, energy, the recycling of waste and lower needs for by-products: they potentially generate less space in terms of transportation needs for economic exchange and for leisure. The absorption of social variety and proximities generate social biodiversity. They induce circular and adaptive moral forms of economy reducing rifts between wealth and poverty. By favouring local solidarity and networking they potentially house other forms of social security and health care. Rural lifestyles may redefine the notion of welfare and reinstate values related to psychic construction of mankind in society.

Figure 5 | AlterRurality, Joanne Villa & Alexandre gobbini, 2013

AlterRurality is a vow to take a closer look at rural values that tend to be erased by urban society and lifestyles. It is an attempt to place them in a renewed contemporary and highly interdisciplinary discourse, through 18 aphorisms (Versteegh, 2015):

1. alterRural communities are dense and intense trans-local organisms seeking self-sustainability
2. alterRurality takes place underneath the aesthetic landscape, a clean and 'porno-chic' urban space.
3. alterRurality is a space of 'messiness'.
4. alterRurality houses contemporary innovative peasantry.
5. alterRural practices are vernacular practices.
6. alterRural knowledge is shared, other, non-expert knowledge.
7. alterRural economy is a moral and equilibrium economy.
8. alterRurality is a space of solidarity, reuniting the dweller and the producer.
9. alterRurality is a creative and innovative resilient 'inside-out' organisation.
10. alterRurality implies other, self-government: a government of mutuality.
11. alterRurality is a space of connectivity
12. alterRurality is the "bodily" of human habitat: an emotional space holistically engaging senses.
13. alterRurality is like a womb: a space of tolerance, gendering and 'othering'.
14. alterRurality is about cycles: fertility, birth, life and the acceptance of death.
15. alterRurality is a space of (trans-generational) care
16. alterRurality is a space of the hidden, the intimous, the 'heimish', 'heimlich', 'unheimlich': uncanny.
17. alterRural space is a space of memory and the imaginary.
18. alterRurality is an ethical way of being with natures.

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SECTION 2

PLACES AND POLICIES

WORKING ON THE WESTERN REGION OF MILAN

During the last half of the twentieth century, the city of Milan developed in a fragmented way and this affected the built environment, the services, the infrastructures and even the open spaces. In such a context, some projects have been able to interpret in a fascinating way, the role of open spaces, giving them a more general meaning.

Even if some of them are still unrealised or incomplete, these projects or, better, these visions, have built the palimpsest for pioneering interventions in the transformation of agricultural areas. In the western part of Milan, Boscoincittà, as well as Parco Nord are key examples of this idea.

The progressive consolidation of the agricultural milieu of Milan, may be interpreted as a strong indicator of a new phase of lending value to the authentic cultivation tradition. Milan's rural districts, by engaging in a suitable dialogue with the public administration and more generally with the settled community, are pursuing a shared strategy to enhance the rural matrix and attempting the integrated and sustainable development of urban settlements.

CURRENT PROJECTS FOR THE RURAL SYSTEM IN THE MILANESE TERRITORY: THE TERRITORIAL DEVELOPMENT FRAMEWORK AGREEMENT "MILAN RURAL METROPOLIS"

Marco Prusicki

The Po Valley portion defined as Milanese metropolitan region[1] is a place of multi-millennial human settlements owing to the extraordinary abundance of water that has produced one of the most fertile areas worldwide, rich in material and immaterial legacy[2]. During the various civilizational cycles, phases of enhancement of the water resources and the soils followed critical phases, until the eventual switch to an urban economy that has underestimated its own impacts on natural resources, contributing to the creation of the current vulnerability of the territorial system, nowadays further highlighted by the climatic changes and by the effects of the economic crisis.

Waterways and soils have been severely impacted upon by the said transformation, but the partial abandonment of agricultural practices, which in the past century entailed a decay linked to the reneging of the ongoing activity of control and maintenance of the entire settlement system, is currently witnessing signs of an inversion of tendency.

The Milanese region, in fact, seems once more capable of expressing a model of development in which water and soil innovatively produce a civilizational phase combining healthy and safe food products, renewable energies, landscape-environmental quality, protection of biodiversity, possibility of using urban/rural spaces, and enhancement of inherited assets. Such a new conception has already proved capable of generating, in some situations[3], an urban-rural landscape in which the enhancement of patrimonial resources has significantly changed the critical rate of landscape-environmental decay of peri-urban areas.

The issue is to realize settlement methods in which the consolidation of the rural matrix revolves around multi-player partnerships, in such a manner that the multi-functional productive activities might be able to strengthen the resilience factors of the overall system, thereby contributing to sustainable development thanks to the integration of the production system with environmentally sustainable activities capable of meeting, at least partially, the demand for food, energy, natural resources and well-being.

This strategy has been understood well not only by the local institutions but also by the farms that over the last years have gathered in Consortia termed "Rural Agricultural Districts".

Today, the Milanese rural district Companies may legitimately assert that they perceive themselves as innovative companies, consolidated within and ready to build a network and thereby square up to the challenge of ensuring food safety and sovereignty, taking care of waterways and soils as good life matrices, collaborating with the multiplicity of cultures cohabiting in the territorial system to collectively enable the growth of an authentically social agriculture, and in so doing contributing to the consolidation of the centuries-old model of intelligent, enduring and inclusive Milanese civilization.

It is precisely from this perspective that, in May 2012, the 'Memorandum of Understanding for sharing the strategy for the development of Milan's rural system' was signed by the Lombardy Region, the Province of Milan, the Municipality of Milan and the Milanese Agricultural District (DAM) as a basis for launching a multi-partnership public-private governance process; such a process has subsequently been expanded until it came to involve all the Rural Districts in the Milan metropolitan area[4] and the several civic society stakeholders with whom the institutions and the businesses liaise inter se across the territory (remediation consortia, professional associations, landowners, environmental associations, NGO's operating in the social arena, citizens, etc.).
Sharing such a kind of vision has gradually become a consolidated matter [5]: the Round Table initiated by the Protocol originated a desire to promote a negotiated program of the actions envisaged by the strategic plans of the Milanese agricultural districts [6], due also to the fact that the Lombardy Region has declared the agricultural land a common asset and that the Regional Territorial Plan[7] postulates the landscape generated by agricultural activities as a territorial enhancement factor.
In order to strengthen the said process, instrumental to the achievement of the objectives and capable of preserving over time the relationships with the partners based on a clear definition of each subject's roles and responsibilities, it was agreed to resort to a negotiated programming tool, the Territorial Development Framework Agreement (AQST), the construction whereof has been developed jointly with the local authorities and the rural districts, under the coordination of the Municipality of Milan and the technical support of the Lombardy Region within the scope of the RURBANCE project[8].

The Territorial Development Framework Agreement (AQST) termed "Milano Metropoli Rurale" ("Milan Rural Metropolis"), signed on 14 January 2015 by Lombardy Region, Province of Milan (currently Metropolitan City), Municipality of Milan and by 4 Rural Agricultural Districts operating in the Milan metropolitan area, pursues the following goals:

» Strengthening the rural systems within a metropolitan setting as soil consumption containment strategy and as operating mode to define a balanced model of environmentally sustainable economic development;

» Contributing to sustainable development thanks to the integration of the productive system with environmentally sustainable multi-function activities capable of meeting – at least partially – the demand for food, energy, natural resources and well-being;

» Supporting forms of diversification of the agricultural activity that might expand the traditional perspective of agricultural production so as also to fulfil the new needs of the city by creating synergies with other economic sectors and additional market opportunities, especially by lending support to a competitive agricultural activity capable of escorting traditional production by a more thorough eco-systemic redevelopment;

» Contributing to a containment of the potential decay and to a landscape-environmental regeneration and redevelopment, in the broadest sense possible, with a view to accomplishing goals of protecting and enhancing common assets (waterways, soils, biodiversity, landscape);

» Consolidating and enhancing the peculiarities of the urban-rural territory though connection modes linking up urban and rural areas, such as the blue-green infrastructure, aimed at integrating urban and suburban realities for purposes of increasing the resilience and biodiversity of the eco-systems and restoring to the inhabitants not only spaces for work but also spaces for enjoyment contributing to an improvement in the quality of life and to identification with and sense of belonging to a territory.

The context covered by the Territorial Development Framework Agreement corresponds to the portion of Milanese region identified as Lambro/Olona hydrographic sub-basin of the Po river, which must however be globally considered to ensure the effectiveness of ruralisation policies relating in particular to water and soil. More precisely, the specific reference territorial contexts which the Territorial Development Framework Agreement intends impacting upon comprise a vast area,

corresponding to the administrative District administered by Consorzio di Bonifica Est Ticino Villoresi, plus a narrower area, the Milan metropolitan context, which does not coincide with the Metropolitan City of Milan, or with the territory of the Province of Milan, but refers to other, previously elaborated studies and tools, more in line with the objectives of the Territorial Development Framework Agreement, that finds it hard to fit into representations defined within pre-existing physical or administrative boundaries[9].

The signatories of the Territorial Development Framework Agreement have identified and shared an 'Action Plan' consisting in macro-actions, actions and activities cumulatively contributing to the attainment of the objectives and destined to be constantly monitored, as well as a 'Strategic scenario of consolidation and enhancement of the rural matrix of the urban settlement for the attainment of the integrated sustainable development of the Milanese area'.

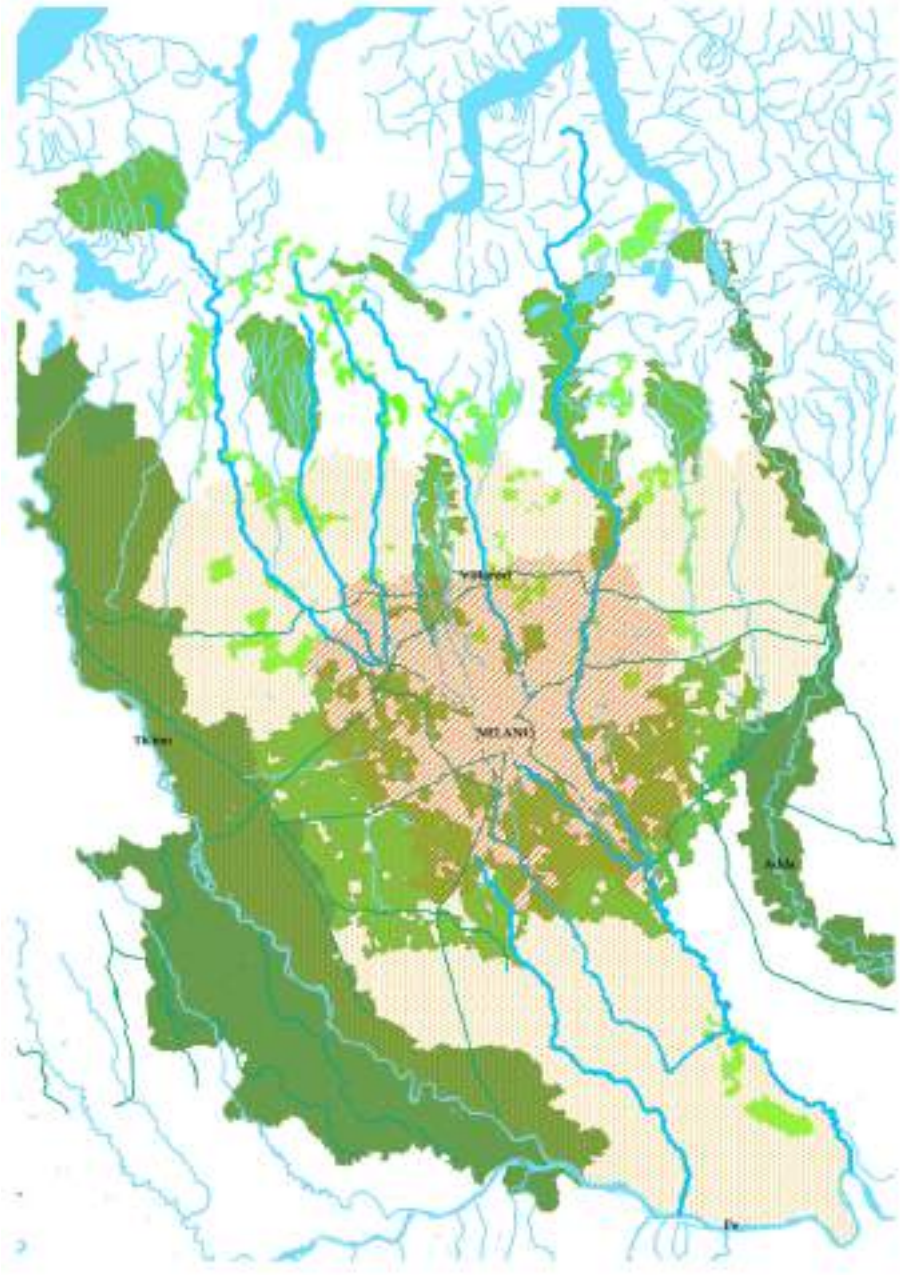

Figure 6 | Reference territorial contexts of AQST Milano Metropoli Rurale (in a light colour, the vast area context corresponding to the District administered by Consorzio di Bonifica Est Ticino Villoresi; in a dark colour, the metropolitan Milanese context (which does not coincide with the Metropolitan City; in green, the protected areas).
Source: Rurbance 2015, elaboration by M. Prusicki, V. Dotti, F. Simonetti

TABLE I | ACTION PLAN OF AQST MILANO METROPOLI RURALE

Action	Goal	Code	Activities
MACRO ACTION 1	Improvement of irrigation system	M1.A1	Increase in irrigation flow and improvement in performances of minor water network
		M1.A2	Improvement of irrigation flow quality
		M1.A3	Hydraulic protection
MACRO ACTION 2	Landscape-environmental redevelopment	M2.A1	Redevelopment of vast area settings
		M2.A2	EXPO ecological compensations
		M2.A3	Maintenance
MACRO ACTION 3	Land improvement	M3.A1	Redevelopment of building heritage (buildings, equipment)
		M3.A2	Modernization of machinery and equipment for the production, transformation, storage and marketing of products
		M3.A3	Cultivated environment
MACRO ACTION 4	Product and distribution chain innovation	M4.A1	Optimisation of resources
		M4.A2	Innovation
		M4.A3	New forms of sales and marketing
MACRO ACTION 5	Multi-functionality	M5.A1	Reception, hospitality and enjoyment of outdoor spaces
		M5.A2	Social activities
		M5.A3	Education and teaching
MACRO ACTION 6	Enhancement and promotion of the rural territory	M6.A1	Territorial marketing
		M6.A2	Promotion of rural culture
		M6.A3	Communication
MACRO ACTION 7	Consolidation of the development strategy	M7.A1	Orientation of policies, plans and programs
		M7.A.2	Studies
		M7.A.3	Training

The 'Scenario', elaborated in the tradition of territorialist school studies[10], offers a long-term perspective, makes up a programming of strategies expressed and susceptible of expression, territorializes the policies and tends to identify in the single local specificities the resources contributing to enhance its resilience.
It is constructed like a large grid 'tableau' produced by a sort of dual motion between what stems from the actions, quite punctual as well, included in the AQST 'Action Plan', viewed as a substantial plan for the construction of the scenario itself, and their projection into a general and unified design dimension of the reference territorial context. A dual motion, therefore, that shifts from the specific

to the general and from the general to the specific to give rise to a tool instrumental to the peculiar dynamism of the framework agreement, both in the scheduling of actions and their progressive update and in the monitoring of their effectiveness vis-à-vis the general objectives pursued.
It is thus not the outcome of applying an abstract model, but rather a design act that strictly links the structure of the territory, captured through its specific characteristics, with the objectives, the macro-actions and the framework of the single actions making up the essential structure of the AQST activity.
The 'Strategic scenario for the Territorial Development Framework Agreement Milan Rural Metropolis' is thus founded, firstly, on the consolidation and enhancement of some essential components of its territory, defined as territorial 'invariants', i.e. as elements of stable configuration or slow modification making up the distinctive characteristics of the environment and the territorial identity defined «through different and successive models of civilization; elements of continuity that are also relevant when the historical analysis highlights, by contrast, radical transformations of the settlement models, the territorial individualities and the geography relating to each civilization cycle: for instance, through the permanence, based on different uses and cultures, of road paths, urban sites, agricultural weaves and territorial signs dictated by geomorphological features» (Magnaghi, 2001:11), as well as in the roles allocated, from a multi-functional viewpoint, to some specific element or systems of elements (the water system, the ecological connections system, the productive agricultural areas system, the fruition system) with a view to developing a new, enduring and intelligent settlement model.
The first 'Strategic scenario paper', therefore, highlights the 'territorial invariants' for the sake of consolidating the rural matrix of the Milan metropolitan context. It is characterized by a high dry plain portion and by a low watered plain portion entirely comprised within the drinking trough strip, the settlement fabric of which came to be defined in ancient times, especially through the Roman planning intervention, the "centuriation", still discernible today in several elements of the physical structure, carried out in close relationship with orohydrography and then, in medieval and Renaissance times, through the vast remediation works on the monastic complexes based on wise hydraulic engineering works. The valley settings, the drinking trough strip and the water system; the agricultural parcelization; the track system; the farmsteads and the productive agricultural settlements;

Figure 7 | AQST Milano Metropoli Rurale: the territorial invariants. Source: Rurbance 2015, elaboration by M. Prusicki, V. Dotti, F. Simonetti

the crops and the specific forms of trees and shrubs, represent, therefore, the constituent elements of the rural matrix. In order to preserve and strengthen its identifying features, the paper identifies them as 'territorial invariants', together with other ones, of later formation, closely associated with the current rural matrix both in a virtuous sense, such as, for instance, the urban parks, especially those with an agricultural connotation, and as critical factors, such as the large transport (highways, railways) and hydraulic infrastructures (shunter channels, overflow channels).
The second paper corresponds to the 'vision of future'. It has a two-fold value: on the one hand, through the cartographic representation (mapping), it intends prefiguring a vision of the structure of the Milan metropolitan context arising from the process of enhancement of the rural matrix deployed by the Territorial Development Framework Agreement, while on the other hand, through the key, expresses and represents its own strategy by assigning to each element or system of elements, identified as invariants, specific roles and tasks for the attainment of the primary objectives.
The vision of future accordingly delineates a structure of the Milan metropolitan context where the fluvial systems (through the identification of the 'multi-functional fluvial corridors'[11]) and the systems of historical canals and waterways, the drinking troughs and the minor irrigation network, take on a central role for both the enhancement of the rural matrix and the integrated sustainable development of urban settlement systems, and the reinforcement of the ecological connections and the protected area system and the consolidation and development of agricultural land, production and agricultural economy, as well as for the promotion of the landscape-environmental heritage through the system of fruition.
As a representation evocative of the future structure and as synthetic picture of the specific roles assigned to its systems of elements for its accomplishment, the paper amounts therefore to a kind of 'score' for 'orchestrating' the multi-level and multi-scale relationships of the various actions necessary to accomplish the objectives pursued and, simultaneously, a touchstone to perceive and assess the impact thereof and postulate its effectiveness vis-à-vis the general objectives.
It is precisely in this dual value that we might deem it an original methodological contribution to the development of adequate governance methods, compared also to the similar experiences taken as reference.

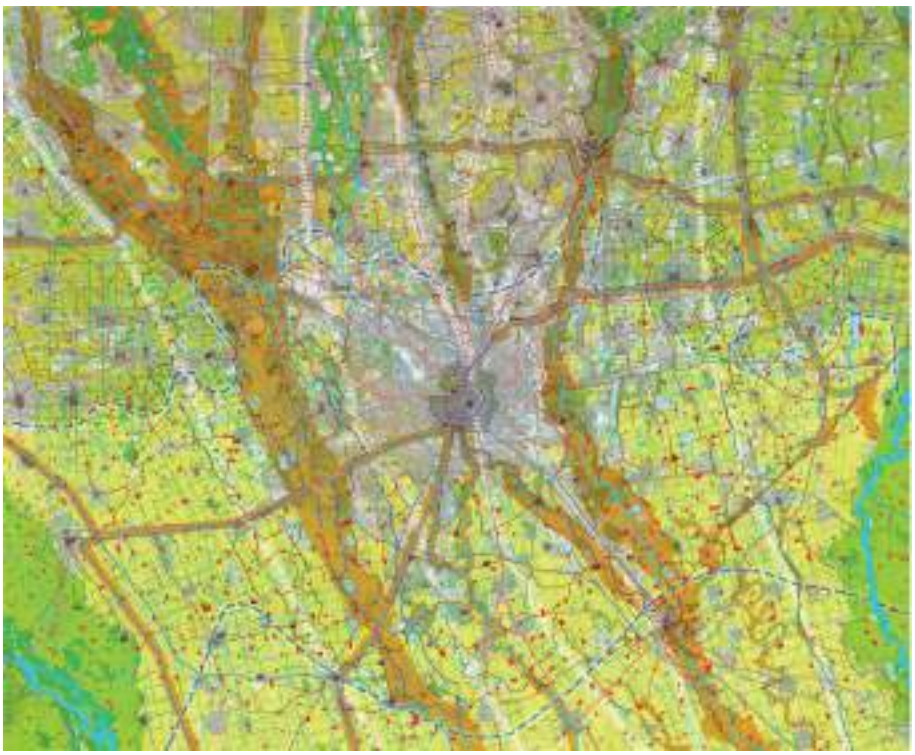

Figure 8 | AQST Milano Metropoli Rurale (Milan Rural Metropolis): vision of future (orange identifies the multi-functional fluvial corridors').
Source: Rurbance 2015, elaboration by M. Prusicki, V. Dotti, F. Simonetti

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NOTES

1 The text represents a synopsis of: *Milano metropoli rurale. Un progetto di valorizzazione delle acque per la neoruralizzazione del sistema territoriale milanese* (Borasio, Prusicki, 2014) and the final report of the research titled RURBANCE, Milano Metropoli Rurale (Pedrana M.G, Pozzetti M., Coviello F., Prusicki M., Dotti F., Simonetti F., 2015).

2 "There is no agriculture anywhere in the world which, within such a limited space, boasts such an abundance of perennial waters or such a vastness of flatland on which to spread it across" (Cattaneo, 1841:169).

3 In addition to the realization underway of the Milanese urban agricultural parks (in Valle della Vettabbia, Ticinello, le Cave, etc.), and to the progressive consolidation of local Park projects of supra-municipal interest that promote waterways and agriculture (PLIS valle Olona, valle Lura, valle Lambro, etc.), during EXPO 2015 several interventions enhancing the rural landscape of the western Milanese portion have been carried out: valley areas of Olona, Lura, southern Lambro (rearrangement of water network and trails in the agricultural sectors of Muggiano, paddy fields, etc.).

4 Distretto Agricolo Milanese (DAM), Distretto Agricolo Valle Olona (DAVO), Distretto Neorurale delle tre Acque di Milano (DiNAMo) and Distretto Rurale Riso e Rane.

5 In relation also to the process associated with the implementation of EXPO 2015.

6 Agricultural districts accredited by Lombardy Region as per Regional Council Decree No. DGR 8/10085 2009, as regards Regional Law No. 1 of 23 January 2007, headed "Tools of competitiveness for companies and the Lombardy territory".

7 Approved by resolution no. 951 of 2010 of the regional Council.

8 Progetto Rurbance: Politiche integrate e governance inclusiva in aree urbano-rurali. http://lombardia.rurbance.eu.

9 Particularly into Operational Tool SO 45 of Lombardy Region's Regional Territorial Plan (PTR) (Atlante Sottobacino Lambro-Olona Distretto Idrografico Fiume Po: Lambro-Olona Sub-Basin Po Valley Hydrographic District Atlas).

10 The starting premise of the studies consisted in the results of the first founding research published in: Magnaghi, 1995; they were then furthered through their application to various contexts of the sub-basin territory and by confronting different issues at different levels. See, in particular, the reports of ReR Lombardia: "Is-

truttoria per l'individuazione di progetti pilota attuabili a breve e di strumenti sperimentali di documentazione e gestione" 1996; "Il sistema fluviale del Lambro settentrionale: vol. I Un patrimonio da valorizzare per uno sviluppo ad alta qualità' ambientale, vol. II Contributi specifici e integrativi su aspetti idraulici e ambientali" 1998; "Tecniche e strumenti operativi per la costruzione di un progetto integrato- la valle della Vettabbia ed il sistema depurativo di Milano" 2000; "Scenari strategici di valorizzazione delle risorse idriche per la riqualificazione del sistema ambientale e territoriale del bacino del Seveso" 2001. See also the strategic Document attached as file to the territorial development framework agreement – Olona river contract – Regional Council Degree no. 18202 of 19 July 2004, 2004, Lombardy Region.

11 What is meant by the term «multi-functional fluvial corridors», devised at the time of the studies accompanying the River Contracts of the Lombardy Region, especially the 2004 Olona-Bozzente-Lura River Contract, are the "variable geometry territorial contexts for the consolidation of the waterway-land relationship in which agricultural areas must perform, apart from productive, ecological and use-related functions, also a role in the mitigation of the hydraulic-polluting risk".

LINKING TERRITORIES: LEARNING AND EXPERIMENTING OPEN FORMS OF URBAN DESIGN

Antonio Longo

MILAN, CITY OF FRAGMENTS AND FAILED MODERNITY

During the twentieth century, Milan grew by clearly defined portions, each of which is the result of single urban planning projects connoting the present city as a big unaccomplished work. While the fragmented image of contemporary Milan shows the traces of miscellaneous notions of city, it manifestly does not bear the hallmark of an overall modern layout (Bolocan, Bonfantini 2007). Beyond the township lines strictly meant, Milan appears as an aggregate of parts, isles, a collage-like city which has become one with the regional scale (Balducci, Curci, Fedeli, Pucci 2016).

Particularly evident in the border areas, the fragmentation of the city impacts both construction development and services, infrastructures and open land. If during the development years, public housing neighbourhoods explicitly embodied coherent urban projects by stand-alone portions, many of the later projects were growingly smaller-scale. While since the 1980s the big reuse projects of the industrial sites abandoned by the early industry has produced a change in the areas strategically located near the infrastructures (Bicocca, Rogoredo, the trade fair precinct and its new site, the areas near the Garibaldi railway station), the remains of ancient villages and farms co-existed with the big urban facilities, the gaps produced by the infrastructures and the residential settlements, thus defining a fragmented landscape in the background of the still mostly active rural land, long viewed as a sort of no-man's-land which could be modified.

On the other hand, at various times during the twentieth century, there have been projects which cleverly and modernly celebrated the city growth and looked at the urban planning culture driving the transformation of big cities worldwide. In keeping with the outlook Carlo Cattaneo framed as early as prior to the development of the modern city (Cattaneo 1844), some of those projects viewed the relation between city and territory, between the geography of rivers, waterways and countryside, as a potential development matrix of the new city.
The layout Piero Portaluppi envisaged together with Marco Semenza in 1927 (Portaluppi, Semenza 1927), the general outline of the "Piano AR" drawn up on occasion of the competition for the reconstruction of the city in 1945 (Albini 1946), the scheme of the "Piano Intercomunale Milanese" developed in 1963 under the guidance of Gian Carlo De Carlo (De Carlo 1966, Nicosia 2013), were never implemented, if not to a very small extent. Yet, they testify to the relation between existing villages and new neighbourhoods, between new infrastructures and old routes, between

water regulation and systems and city layout. First and foremost, faced with the lack of a dominant natural landscape, a characteristic which caused Milan to appear as an abstract platform, these schemes tried to represent the vision of the future city also through a uniform layout of the open land, complementary to the layout of the built city.

What in the rest of Europe influenced the future layout of big cities, in Milan remained either confined to theory or translated in a handful of architectures designed by twentieth-century key players. It is interesting to note that the genuine quality underlying these projects, no longer to be found, resided in representing Milan other than confined to its administrative boundaries, subordinate to the geographies and "connections" consistent with the objectives and the reference geographies of the layouts themselves. Since the mid Sixties, the urban planning projects developed for Milan have focused more and more on land use and have been indissolubly tied to the local administration policy alone, disconnected from a regional and systemic vision.

Apart from their different technical and political vicissitudes, the three schemes mentioned above epitomize stand-alone examples of a failed modernity. When we examine them separately, to the West along the old Olona riverbed and the Sempione route, to the North, in the area most integrated with the future conurbation of Brianza, they show two open land portions which witnessed two extremely different, interesting episodes of urban structuring and re-composition.

LOCALIZED RE-COMPOSITION STRATEGIES ON THE EDGE OF THE CITY: BOSCOINCITTÀ AND PARCO NORD MILANO

During the Seventies two projects for the construction of urban open land got under way which set themselves apart. Namely, the construction of BoscoinCittà, which began in 1972 on the Western side of Milan, along via Novara, and the project for Parco Nord Milano, the construction of which began in the early Eighties after long-term political and technical discussions in the framework of the "Piano Intercomunale Milanese". Both projects evidence a completely different territorial re-composition quality: based on vision, management criteria, local political initiatives concerning specific portions of the territory, it has been possible extending and inspiring the layout and government of entire urban sectors.

BoscoinCittà is the result of the initiative seized by of a bunch of proactive people networking with the local division of Italia Nostra, an association committed to protecting the natural, artistic and cultural heritage. Back in the early Seventies, taking inspiration from similar European projects and for the first time in Italy, the association promoted an Urban Forestation Centre asking the Municipality to be allocated an area where, by replicating Northern European experiences, an urban forest would be created in keeping with forest-specific technical criteria. Following the agreement between the association and the Municipality of Milan, between 1972 and 1974, the foundations of the first unit of the future "BoscoinCittà" were laid along via Novara, West of the city. The first start-up action consisted in setting up an experimental, if not pioneering, urban forest system and, later, renovating an old farmhouse. Over forty years after the kick-off phase of the long construction process, today BoscoinCittà epitomizes an active hub and the design soul of the entire West Milan sector. Failing a global initial scheme, the project reconstructed a continuous system of open land defining the west boundary of the city.
Since the outset of the project, the association "Italia Nostra Ovest" – CFU, Urban Forestation Centre – responsible for managing the space, has stood out as an influential political-technical group actively promoting an enlightened example of local management (Torrani 1984).
The association founders included Piergiuseppe Torrani, administrative lawyer and subsequently promoter of AIM, Associazione Interessi Metropolitani, Sergio Pellizzoni who has been director of the forest for over 30 years and Luisa Toeschi, current President of the CFU. The project was realized following a very light and adaptive layout designed by the Landscape Architect Giulio Crespi with the technical support of the School of Minoprio, a public-privat Foundation for gardening and arboriculture (Ponti, Ponti 1974). Thanks to these special conditions, BoscoinCittà and the promoting association have grown into a benchmark player of Milan's environmental and urban planning policies. The CFU currently heads many initiatives designed to regenerate the city's open land as

well as promotes projects whose scope goes well beyond the urban boundaries, including a complex system of open land defining the West portion of the city: the original core along via Novara, some portions of Parco delle Cave (a large public park in the west side of the city, in continuity with the BoscoinCittà) and the areas near the Figino purification plant. Standing out against their resourcefulness in establishing connections, relations, networks, the ability of the park's management team ensues from targeted actions, rather than from an initial territorial layout strategy, and pursues gradual reconstruction while giving a new configuration to the open land sequence along the Olona's old riverbed and the entire territory of Western Milan (https://www.cfu.it/)

In many respects, the project for Parco Nord Milano is tied to the story just told. Located in a border area bereft of a clear-cut connotation, the first scheme of the "Piano Intercomunale Milanese" identified it as one of the gaps arisen in the open land and disrupting the continuity of the built-up fabric. Stretching in the border area comprised between Milan, Sesto San Giovanni, Bresso, Cinisello Balsamo and Cormano, Parco Nord Milano originated in 1975 after the newly-set up (1970) Lombardy Region designated it a Regional Park.
The initiative was announced in 1970 following a prefectural decree which declared the park space a "site of public interest" to the aim of avoiding conurbation in a portion of the city whose rapid, uncontrolled sprawl had resulted into high-density development, let alone the shortage of services and collective spaces. Initially, the decision regarded the delimitation of a perimeter including the blank portion of the urbanized fabric, an area encompassing a mix of open land such as residual rural areas, industrial sites, landfills, formal and informal manufacturing activities, urban infrastructures and, right in the middle, the neglected riverbed of the Seveso stream.

After the Park was established, a deadlock followed until 1983 when a consortium of towns was set up by law, trusted with the development of the park and the management of its space. Thus, the long construction process – still in place – of the largest contemporary Italian town park got under way. It is not incidental that the first action undertaken for the creation of the park was a large forest project tapping into the principle of BoscoinCittà experimented ten years earlier.
While the project was accomplished irrespective of a plan envisaged by the Municipality of Milan, a stakeholder providing financial support and a member of the consortium, the city authorities never prioritized the development of the park as part of their territorial strategy. It is significant to note that Milan's Master Plan and the official maps of the open land system do not comprise most of the Parco Nord areas as they lay outside the city's administrative boundaries, thus providing adequate urban services solely to the small portion of the park enclosed within Milan's administrative boundaries.

In the meantime, while the park extended within the boundaries, the managing body took action as a player with a great leeway. The goal to achieve a large town park to be gradually built at low costs successfully walked hand in hand with the will to requalify urban fringes, degraded areas and to regenerate abandoned industrial sites.
Today the park occupies approximately 600 hectares and is the institutional and management benchmark for the development and maintenance of a large-scale system of town parks. Over the past three decades, Parco Nord has undoubtedly epitomized one of the most significant urban regeneration projects ever achieved in an Italian suburban context, although it originated from a specific local initiative, yet relevant in the Milanese scenario.

The above project was achieved thanks to the decision to adopt a step by step approach, while paying special attention to ordinary management criteria. After a period of traditional blueprint which prevented construction from getting started owing to skyrocketing costs, under the guidance of Francesco Borella, an expert from the study centre for the "Piano Intercomunale Milanese" – the park was accomplished in batches based on an informal masterplan, an overall project, formalized against the boundaries, but highly informal against detail breakdowns. The masterplan breakdowns were gradually updated. The construction of the park was carried out on the cheap, wooded areas were created inspired to forest criteria, meadows, while walkways and bridges were installed at strategic locations. Designed according to a recognizable, modular architectural language, the bridges

provide territorial links which, as time went by, pieced the city fragments together, thus ensuring total continuity to the park's walkability.
Parco Nord, too, originates from an initiative promoted by a group of stakeholders identified and established within the boundaries of the local project: the manager and the technical, surveillance and maintenance staff, the park's board of directors, the voice of the participating towns, the Province and the Region who strategically took action in a delimited portion of the territory. Today, a group of citizens organized in associations caters to the park's life and growth aided by a multitude of citizens who liven it up through free usage, urban horticulture programs ensuing from the assignment of small lots of land or sport and leisure activities performed throughout the space available.

As physical space for the protection of open land, as landscape, as institution and group of proactive stakeholders, the park has shown its ability to grow through the "step by step practice", while adapting to a form capable of permeating and re-composing a wide portion of the city. The goal has been achieved also because the project has been designed as a multi-dimensional device, founded on connections and relations vs a rigid layout, striving to reach landscapist and aesthetic goals, escaping pre-defined standards. Due to these characteristics, and along a "softer resistance line" – to put it in the words cherished by the first president Francesco Borella – the park project has effectively reached and indulged its strategic goals of growth and requalification of the Northern outskirts of Milan.

CONNECTING AND SEPARATING, COMPLEMENTARY ACTIONS AND CHOICES

The two examples illustrated above revolve around a counter-intuitive model where global vision is the outcome of a patient, long-term process undertaken to lay the tangible foundations for the transformation of the townscape, inspired by strategic goals, modified with the passing of time, and by a clever tactic. No doubt, the parks which currently dot large portions of Milan, would never be there unless the local experts, who ingeniously interpreted their role of "urban designers" by practicing both continuity and discontinuity, had striven to reach this goal. This is a counter-intuitive deed, too.

When developing projects for contemporary territories, we often resort to the image of continuity and connection as the inevitable response to fragmentation, the juxtaposition of parts. If abandonment, isolation from the circles of consumption and of the trade of the heritage bequeathed by the past, disruption of flows and relations, separation and exclusion are problems, reconnecting, linking, including are solutions which can help improve the efficiency of single parts, recirculate resources, otherwise wasted, and extend rights. Connecting is also about responding to risk factors in multiple, open ways because it is common knowledge that an interconnected system is usually more efficient and durable.

On the other hand, ecological sciences, especially environmental ecology against its most recent developments, also warn us against associating a necessarily positive prejudice with the concept of connecting. This perspective makes sense if, based on a conception mostly based on the relation between systems, we can consider the characteristics typical of single parts against a holistic outlook. Which connections can we talk about then and how do they function if, without excluding them, we consider not only the infrastructures, whatever they be (transport systems, technology, green and open land systems) as the bond among fragmented elements?

When we consider fragmentation as an evolutionary component which typifies dynamic, multi-dimensional contemporary territories, and we grant that connection or separation are nothing but complementary actions of reorganization and re-composition spaced in time (Gabellini 2010), we realize that the interpretation possibilities beneath phenomena are manifold, while the spaces and responsibility of urban design and planning wide-ranging.
On the other hand, we must not forget that dividing, separating, delimiting, differentiating, identifying, protecting are just a few of the numberless actions which cohabit in any project about space and territory. Beyond that, they underlie the modern urban planning heritage in as much as the search for a uniform, functional layout of cities where continuity has always been a prerogative of the infrastructural system (Mancuso 1978). Delimiting a defined portion through a law setting a boundary

or assigning a portion of land to a group of citizens, as it has been the case with Parco Nord and BoscoinCittà, is a deed which heralds the creation, within the boundaries identified, of new specific conditions, maybe able to impact the surrounding environment as well. In understanding the principles of re-composition applying to the contemporary city, we must keep an eye on connections and infrastructures – what lays between the elements and is identified as a stand-alone, often add-on, connecting portion. Likewise, we must stay focused on the relational ability of the single elements that come across as ecologies sharing a relation which, metaphors aside, are the single – often fragmented - portions of the city with stories and characteristics of their own. Although ensuing from specific fragmentation processes, each of those parts is formed by an aggregate of places inhabited and catered for by active, mindful local individuals. Continuity conditions and the relations among portions of city and territory may occur thanks to infrastructures and factors able to foster bonds and ties (a new road, a public transport system, a new park) and, first and foremost, driven by local initiatives thanks to which those parts can interface with the nearby parts, while gradually laying solid continuity and connection conditions.
Most certainly planning and urban design can interpret and connect with these phenomena to hold back the problems, if any, arising from separation or to promote and inspire local initiatives fit to foster connections and widespread benefits.

FINDING DIRECTIONS

Inspired by Milan's example and applying to wider-ranging topics, the above considerations help us frame the scope and significance of an educational experience and research by design like the one the 2015 Urban Planning Design and Planning Doctorate workshop run provided. Although short, it stood out as a descriptive and design exercise which allowed the PhD students to plunge in a real context, Milan West, as part of the park system which intersects the central core of the city of Milan, undoubtedly ridden with problems and fragmented, with players actively committed to building and running public spaces and parks through a different approach. By observing the context, it was possible contextualizing and outlining the current connections, recognizing elements of separation or connection, the specificity and quality of the various parts to draw a picture of complex relations. It emerged that connecting, linking are actions and inclinations typical of projects targeting the city and the territory vs layout objectives, characteristics of a relational, ecological environment. The search for continuity, connections, relations comes across as a tendency to establish links and relations between objects, phenomena, situations scattered in space and time even within discontinuous and sometimes unstable, changing spaces. As urban designers we can thus look at our many-sided designs and projects, our interpretative speculations and narrations as guides helping us find directions within this complex, multi-dimensional space which, in turn, represents the critical construction and recognition of design contexts.

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BOSCOINCITTÀ: NATURE, AGRICULTURE, SPACES OF FREEDOM. DIALOGUE WITH SILVIO ANDERLONI ABOUT THE CONSTRUCTION OF A PERI-URBAN PARK

Giulia Fini

Boscoincittà is a wide public park in the north-west of Milan, not far from San Siro and Gallaratese districts and the areas of Figino, Quinto Romano and Quarto Cagnino. Located within the borders of Milan's southern Agricultural Park (Parco agricolo sud) – the large agricultural park running around the southern perimeter of the metropolis – Boscoincittà is one of its northernmost points and is part of a peri-urban area made up of social housing districts, unbuilt spaces, settlement of diffused urbanisation, important infrastructural elements, and agricultural wedges.

The first experimental example of urban "forestation" in Italy, Boscoincittà in Milan covers a surface area of 120 hectares, seven kilometres far from the city centre; it is part of a significant system of adjacent green areas, also including Parco delle Cave, Parco di Trenno, Parco dei Fontanili di Rho and Bosco della Giretta, overall covering 310 hectares of public parks in north-west Milan[1].

In 2014 Boscoincittà celebrated 40 years since its foundation: this contribution intends to summarise the innovative experience of the Bosco (its unique management and planning features, the areas that characterise it, etc.) based on the direct report by Silvio Anderloni, current director of the CFU – Centro di Forestazione Urbana of Italia Nostra and one of the main players behind the project[2]. Through the both evocative and sharp report of one of its founding members, it is easy in fact to understand how Boscoincittà is completely unlike any other public parks in Milan or in Italy in general.

From the very moment of its foundation in 1974, Boscoincittà has represented an innovative space of planning and construction: thanks to its underlying concept of public park (not a "park" but a "wood"); the methods used and the context in which the project was defined, and finally as a precursor experience of a public property's agreement of management between an administration, a no-profit association and the local inhabitants: «innovative not only for its essence as woodland, and woodland created by an association, but also in the methods utilized in the planning, management and use of the area» (Anderloni, interview).

The actors involved in this experience - that has been ongoing now for over forty years - are the Municipality of Milan, the Association Italia Nostra with its CFU operative group, many volunteers who have participated in establishing the park, and the variety of collaborators which have nourished its many complex dimensions: «Boscoincittà seemed to gain meaning through a process of cooperation in which citizens and institutions worked together» (Lapenna and Toccafondi, 2017: 411)[3]

THE CONTEXT, THE ORIGINAL IDEA, AND THE STARTING PHASE

Anderloni's words clearly recall the socio-cultural context in which Boscoincittà experience started. It was a time – the early 1970s – when environmental sensitivity (and that of a more liveable urban space) was embryonic ideas, strong but not yet developed or deep-rooted as in other European countries. As Anderloni recounts, «we are in 1974, in the very middle of tumultuous urban development. Milan and its metropolitan area were amongst Italy's most polluted territories, also thanks to the dense real-estate development of previous decades. Some important interventions to realize open spaces had been carried out, such as Parco di Trenno and Parco Forlanini, but generally speaking environment and lanscape's issues were greatly overlooked» (Anderloni, interview).
In the context of Milan, this new environmental sensitivity was linked to a number of specific conditions. The energy and oil crises of that time, within a general climate of austerity, had determined fewer weekend breaks in the surrounding areas (the countryside, the lakes, the coast or mountains, traditional weekend destinations of the Milan inhabitants). A more intense use of urban spaces drove many Milanesi to pay greater attention to and be more aware of public services - such as green areas, sport or free time facilities - both in the city and in the immediate surroundings. In parallel, a new sensitivity emerged towards public spaces and parks throughout the city: on one hand a critical judgement about the "spotted green-green measles" (a wonderful expression coined by Guido Borella, designer and first director of Milan Parco Nord), on the other, the awareness that the expanded dimension of the urban fabric required larger, metropolitan-scale parks. Finally, the necessity for an economic green spaces deepened, so as to weigh less on the finances of the public administration: «green areas with not expensive realization or management, but rich of nature, life, biodiversity» (Anderloni, interview)
In Milan, Italia Nostra – a cultural association which until '70s had dealt mainly with the protection

Figure 1 | Parks, settlements and agricultural areas in the north west of Milan. Source: CFU Italia Nostra, Author: Elena Pelizzoli

of historical and architectural heritage – undertook a series of initiatives sensitising and protesting against the metropolis' serious environmental conditions, while promoting the project of "new woodland" to be created through a community planting of trees in an area yet to be established[4].
The creation of Boscoincittà was made possible through an agreement that, following several failed attempts, was finally defined in 1974 between Italia Nostra and the Council of Milan regarding the area in which the Bosco was to grow: an abandoned agricultural site in Figino, whose water channels were completely dried up[5]. As well as the Council and Italia Nostra association a further two organisations were immediately involved in developing the project: Azienda Forestale dello Stato (National Forestry Agency) – which was responsible for donating the first plants – and the Minoprio Agricultural School which lent technical support in planting and building the park.

BOSCOINCITTÀ PROJECT

Other European metropolitan woodland experiences became the main reference points in establishing the new park, which in Italy was the first of its kind: first amongst them, the Woods of Amsterdam (the Amsterdamse Bos) which was created in the 1930s and which the founders of Boscoincittà had come to know during some trips abroad. More generally, as Anderloni tells us, «the culture of the wood belongs to many diverse northern European cultures and traditions, where the woods are not only places of fear and danger (as in Mediterranean cultures) but also of fascination, mystery, charitable and mysterious presences, etc.» (Anderloni, interview).
Architect Giulio Crespi drew up the Boscoincittà project, while the landscape and design criteria came largely from the ideas of Ugo Ratti, including:
- the territory and the park are conceived as a "green continuum": the clearings to be used are defined within the park; the edges of these clearings are conceived to increase the overall impression of the extension of the woods and to diversify the views;
- the trees used were not so much chosen for their suitability for the construction of the woods but also (and above all) for their "availability"[6];
- it was decided to take the route of an "open process", or rather the study of a solution that could be easily modified and increased over time;
- the presence of water is another important element for its irrigation, landscape and natural functions.

As Anderloni highlights, the project and construction of Boscoincittà were not characterised by the presence of a single architect over the years, but more by the convergence of several ideas and expertise by an heterogeneous working group (the architect, the agronomist, gardeners, biologists, experts in farming and forestation techniques, etc.) and above all by a "continuous on-going work". Anderloni says «there was never the architect here (…) on the contrary, choices were made by

Figure 2 | The original project of Boscoincittà park. Source: CFU Italia Nostra Author: arch. Giulio Crespi

global consensus and supported by careful attention to social and territorial needs».
The first years of the wood construction, following its foundation in 1974, were characterised by campaigns to clean the territory and plant trees, together with renovations of San Romano farmstead (cascina San Romano). Immediately, the need emerged to restructure an efficient water system due to the precarious state of the existing one: «the area had not been irrigated for a long time as the channels - which up to fifteen years earlier had flowed abundantly with water - had dried up when the ground-water level dropped due to extensive urban development» (Ponti and Ponti, 1994: 35). Italia Nostra identified the Villoresi canal as the new main water source for the area, also in order to put a stop to water being taken from the Olona stream which at the time was worryingly polluted[7].
Thus, Boscoincittà gradually expanded its borders: in 1984, at the end of the first convention with the Council of Milan, the area of the wood expanded to 50 hectares. With the second convention, the first vegetable gardens were established with about thirty lots (1988) and the start of construction of the main lake (1990). The third convention (1993-2002) expanded the area to further 30 hectares creating the water garden, the protected areas for children and other urban vegetable gardens. The penultimate convention (2003-2011) assigned the area of Via Caldera to the park, linking together Boscoincittà and Parco delle Cave and widening the wood to an overall surface of more than 120 hectares.
Today Boscoincittà is made up of some recognisable areas. In the initial nucleus of the park, the project has followed less strictly the elements of the context, which at the time of construction were greatly deteriorated. Via Novara entrance to Boscoincittà is characterised by the large San Romano farmstead, headquarters of the CFU and where many of the activities undertaken in the park are held or start. The trees species planted in the first phase of the project were supplied by the nurseries of the Azienda Forestale dello Stato (National Forestry Agency), and were almost exclusively exotic, quick-growing species for which a very large planting dimension was chosen.
The subsequent expansions of Boscoincittà were designed mainly following the morphology of the ground and the ancient canals, renovating the paths and the field's subdivision, but also the park's

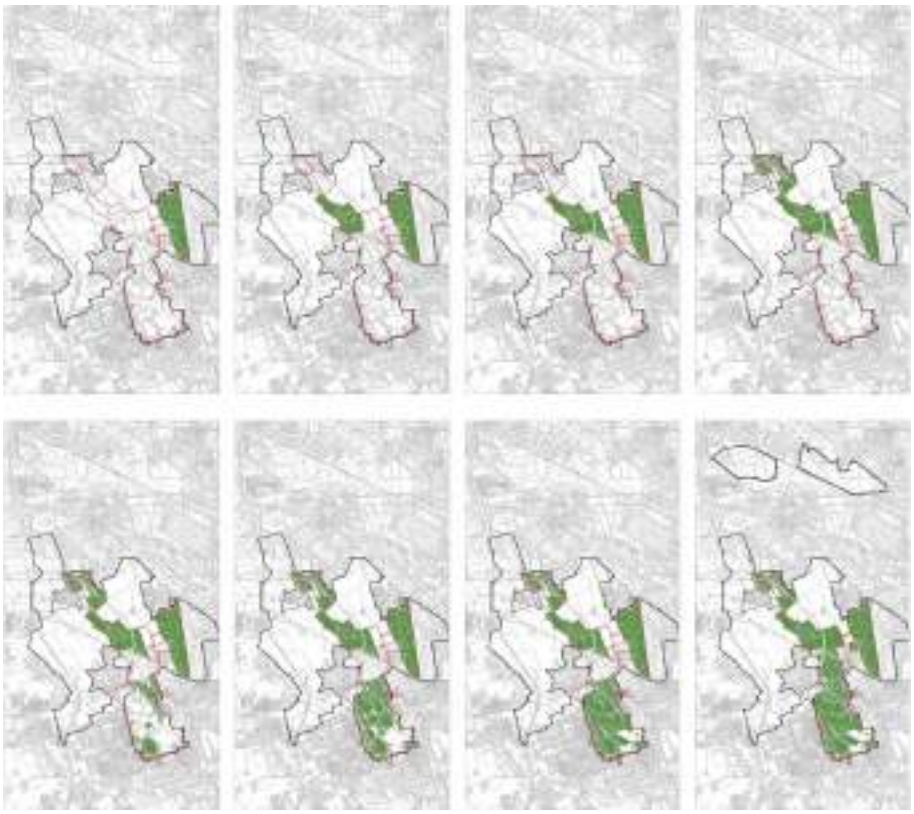

Figure 3 | Definition and enlargement of the parks in the western sector. Source: CFU Italia Nostra

location within a wider idea. In 1994 the "Park of interrupted paths" (Parco dei Sentieri interrotti) was defined aiming to valorise and protect the agricultural areas in continuity with the urban or peri-urban green areas. In these years, an on-site nursery was established to make up for the lack of native species and the planting layout dimensions were reduced. In the northern part of the Bosco a Water Garden (Giardino d'acqua) was realized, in which aquatic flowers and plants are cultivated with an increase in environmental diversity. The edges of the park – nearest to the residential areas – are instead characterised by the presence of around 150 vegetable gardens, guided cultivation areas designed and created by the CFU which act as a service to the territory[8]. The vegetable gardens have multiple functions: located in particularly fragile areas, they move park's free uses away from residential areas, reducing situations of conflict and marginality.Overall however, the spaces mentioned here are secondary to the main area of the Bosco – made up of clearings, wide open spaces, cycle paths and horse-riding paths, water canals – which constitute the main focus of the project. The absence of signage in the park is also a reference to this principal idea, aiming to involve users in an experience in which the presence of human and artificial signs is reduced to a minimum.

Figure 4 | The system of open spaces composed by Parco di Trenno, Boscoincittà, and Parco delle Cave. Source: CFU Italia Nostra, Author: Elena Pelizzoli

PARK MANAGEMENT, ACTIVITIES, AND THE CONTRIBUTION OF VOLUNTEERS

Anderloni also highlights the original management method of the park, totally unlike that of the other green areas in the municipality of Milan. Starting with the foundation of Boscoincittà, the land was given in "direct management" to Italia Nostra.

Almost immediately an employee was identified to manage the daily activities of the park, such as field cleaning, organisation and scheduling of tasks, planting campaigns, relationships with volunteers, etc. «not a keeper, a worker, or a team that sometimes went to the park, but a person who contained all the functions in himself[9]» (Anderloni, interview). This approach thus allows the staff to move beyond the distinction between "extraordinary" and "ordinary activities" - which are often overlooked - regarding the green areas of Milan Council: not so much from the economic viewpoint and actions scheduling but more as a continue condition of care and work on the territory.

The park staff constitutes a constant and qualified "service" within the park which both controls the territory and supervises the process. The focus on a path of construction that gradually takes root itself is also documented by Ponti and Ponti (1994: 36) which explains the consolidation of relationships with all the actors surrounding the park: «it was fundamental to inform farmers about the motivations of the initiative, and it was also necessary to get rid of the widespread prejudice that the wood was 'land stolen from agriculture'».

Italia Nostra Association also required an "ample mandate" from the Milan Council: a necessary condition to work within the territory of the park in relation to the many urgent situations that could occur and, in some cases, even regarding the rules of traditional management of the green areas by the Council.

The relationship between Italia Nostra and the Council is still today formalised by a management lease, renewed every nine years, and an economic contribution that is equal to an expenses refund. Italia Nostra covers all other expenses through private donations, sponsoring and Bosco's small economic activities. The relationship with the Council of Milan has evolved over the years: from "a relative initial disinterest" to "moments characterized by some limitations", up to "others period of great reliance" - an evolution that is also intertwined with the growth of subsidiarity relations in the management of public goods (see Puerari et al. 2014). The management experience by Italia Nostra which started with Boscoincittà has been in any case greatly appreciated and recognised. Moreover, it represents the starting point for other similar experiences throughout the territory:

Figure 5 | View of San Romano farmstead.
Source: CFU Italia Nostra

Italia Nostra has planned and contributed to the creation of via Valla vegetable gardens (on behalf of AEM, 1988), the Bergamella vegetable gardens in Sesto San Giovanni on behalf of the Council (2012-2014), the management of Parco delle Cave (since 1994), up to the recent commission for the redevelopment of Porto di Mare area, one of the areas with the greatest uncertain destination of the Milan territory, which today has fallen into a condition of serious abandonment.

Another significant resource marking the entire Boscoincittà experience is the contribution of volunteers in constructing the park from the very moment of its foundation. Since 1974, numerous volunteer groups have been involved in specific activities following a model of "active use" of the Bosco[10]. Under the coordination of directors and their direct collaborators, volunteers are involved in seasonal scheduled activities such as cleaning the land, the planting of new trees, the renovation of trenches and canals, and more recently care of vegetable gardens and the water garden.
These were important contributions that also proved problematical due, for example, to the need to create continuity of the work, availability that may fluctuate throughout the year, and also linked to need to coordinate the volunteers. As Anderloni highlights, the value of the volunteers's involvement goes well beyond the practical or economic aspects linked to the contribution in which they are engaged. There is an "added value" related to the active participation, the transmission of knowledge (and savoir faire) within a wider social impact, the growth of sense of belonging and care of the park. These values are transmitted and maybe spread even further by volunteers themselves.
Currently, meetings have been organised with scout and school groups; courses for beekeepers, vegetable gardeners and other training courses; meetings and activities open to the public held throughout the year; in San Romano farmstead there is a party area (area delle feste) and guestrooms available for users and volunteers of the park.
The catchment area of users and volunteers of Boscoincittà is however different from those of the nearby Parco delle Cave or Parco di Trenno: these parks have a more direct relationship with the residential areas of Quarto Cagnino, Baggio and Quinto Romano, all districts with green areas available, but whose parks cover the eastern borders. Boscoincittà has on the other hand always been a "catalyst" and a destination for users of the entire Milan municipality, an aspect that reflects the wide networks that Bosco has constructed over the years, but also Italia Nostra's commitment to promotion and awareness at the entire urban scale.
Moreover, Boscoincittà constitutes a "container for free uses", in which the predefined structures

Figure 6 | Park's activities close to vegetable gardens.
Source: CFU Italia Nostra

are limited: the aim is to cultivate a relationship between humankind and nature which can alter with the seasons, whether the park is visited in groups or alone.
An additional element to be considered is how the use of a public park presents its own seasons and various periods of use (Panzini, 1993). A similar condition was found also in Boscoincittà, with some very intense periods of use and others less intense[11]. During the former, problems arose regarding the maintenance of the grass or the management of the activities in some communal areas; during the latter it was possible to recover some of the planted areas, undertake more in-depth work with the volunteers, the construction of new projects and ideas in the park, ready to open up to the public again.

THE TERRITORIAL DIMENSION

The final aspect that is important to recall is the territorial ambition of Boscoincittà and the nearby parks within the per-urban context in which they are located and the perimeter of the southern agricultural park of Milan. Anderloni says: «we are also searching to leave the 'shell' of the park: in almost a provocative way we can say that we should 'abolish the parks' and move on from looking after the park to looking after the entire territory».
The objective in which Boscoincittà is involved is to build a broader system with Parco delle Cave and Parco di Trenno which cover an overall surface area of more than 300 hectares of adjoining public parks, 400 hectares of agricultural areas managed by 32 farms businesses, over 100 hectares between race and training tracks of the nearby San Siro hippodromes. As a whole, these spaces constitute a system of areas and routes at the metropolitan scale that have a high value for uses, participation activities, as well as environmental and ecological dimensions. The system of the northwest parks in fact contributes to air mitigation (during the summer months) and a reduction in polluting factors during the whole year: two crucial factors of peri-urban parks in highly urbanized areas. Overall the west belt parks are frequently used, with the presence of 400 lots of urban vegetable gardens, picnic areas (30.000 users per year), jogging, horse-riding and tourist cycle paths, 32 agricultural farm businesses.

Silvio Anderloni's report on Boscoincittà is precise and evocative at the same time: the manager of CFU is able through his words to propose technical contents - on the Bosco's management and maintenance - together with reflections on what it means to build and protect this space every day

Figure 7 | Park's management activities with refugees. Source: CFU Italia Nostra

and bring it to life, both as a work team as well as part of a wider community.
In view of this complexity the role of the individual architect and the "visions" - often evoked by town planners and architects speaking about green spaces at the territorial scale - fade into the background. On the other hand the report by Anderloni reveals a wealth of footprints, ideas, local knowledge and articulated skills[12]: a continuous work on the territory but the main challenge of which was, from its very foundation, that of being transmitted and extended towards the users and volunteers of the park.
Forty years after its foundation, Boscoincittà is a rich place with much to tell, and much to teach: a space of "nature, agriculture and freedom" (following the CFU main slogan), a place for a tenacious community in the contemporary metropolis.

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Italia Nostra Onlus Sezione Milano Nord cintura metropolitana:
www.italianostra-milanonord.org

Parco agricolo sud Milano:
www.parcoagricolosudmilano.it
www.cittametropolitana.mi.it/parco_agricolo_sud_milano

NOTES

1 Boscoincittà and the other parks referred are located «within the western sector of the Milan periphery, between the bypass road and the Meazza stadium (...) Beyond the bypass other intense urbanised areas have consumed large quantities of land in the councils of Rho and Settimo Milanese; beyond the stadium, toward the north, are instead located some of the most densely urbanised areas in Milan» (CFU - Italia Nostra, 2008: 6).

2 The interview with Silvio Anderloni was undertaken in autumn 2017 in the CFU - Centro di Forestazione Urbana headquarters.

3 The 40 years of Boscoincittà experience are documented in many publications. The main reference to understand the complexity of the park's construction is Toeschi (1984) which introduces the experiences referring to the entire process of constructing, but also to plant techniques and didactic initiatives, etc. In addition, there are several publicity materials and research reports published by the CFU on the specific themes (CFU 2008, 2009, 2014).

4 Within this context we can also find the initiatives of the Milanese section of Italia Nostra "Aria per Milano"(1969) and "Di verde si vive"(1972). These activities were soon joined by the desire to influence the context with concrete experiences: «the method is in fact this (...) to directly involve citizens in dealing together with a problem that the Council administration has found difficulty in overcoming» (Toeschi, 1984: 24).

5 «The area for the planting was finally identified: it was a semi-abandoned land near the Milano-Novara-Torino national road, almost adjacent to today's Trenno park, extending over approximately 35 hectares. Thus we reach the formal agreement with the Council of Milan (...) for a free contract of the identified land, committing the Association to restore it after nine years of planting so that it could be opened to the Milanese citizens as a public park» (Ivi, 22). The start of the urban forestation process was a completely new idea at the time, if we consider that as recently as the end of the 1950s, woodland areas were cut down to make way for agricultural land with redevelopment funding.

6 Anderloni tells: «all forestation techniques aimed at mountain reforestation or at planting quick-growing species in order to produce wood and cellulose. The nurseries of the Forest Guard only produced exotic species; they had no native species (...) So we started off with species that were not completely suitable».

7 The use of polluted water taken from Olona river by farmers led to widespread pollution in the area. The period of greatest pollution was between the 1950s and the 1970s when textile, paper and tanning industries dumped their waste into the river.

8 While vegetable gardens are today generally widely accepted and considered as beneficial, at the very beginning of the process they were considered places for emarginated people and as a legacy of "wartime vegetable gardens" (orti di guerra). The Bosco allotments are divided into four main areas (Maiera, Violè, Spinè e San Romanello), assigned to citizens upon request following a municipal waiting list. As well as looking after their own personal allotments, those assigned a plot collaborate with CFU in common planting and in managing the garden' activities.

9 The first Boscoincittà collaborator was Sergio Pellizzoni: «his position was different to that of other promoters. Pellizzoni initially entered the initiative through a part-time employment and then became the full-time operative manager of the Bosco (...) Basically, he was the main established reference point for all those who come into contact with the initiative of the woodland» (Ponti e Ponti, 1994: 30). Today the group of collaborators boasts 15 members, mostly part-time and all with different skills and abilities. The current manager and director of CFU is Silvio Anderloni.

10 «The group who initially established the initiative believed strongly in individual commitment and in finding solutions to a problem as a group. 1974 was again marked by a strong collective interest in forms of direct participation (...) but it was no longer so greatly characterised by the strong disputes of the first 1970s. But above all, it was the friendly but capillary approach in which volunteers were contacted - then regularly informed and encouraged - that was most influential» (Ponti and Ponti, 1994: 43-44).

11 «Right up to the 1980s the park was mainly known by volunteers, school groups and other groups of enthusiasts. In the mid-1980s there was an explosion in use resulting in huge density (...). More recently, the presence of widespread and well-equipped urban green areas has partly reduced the use of large extensive parks» (Anderloni, interview).

12 Also refering to this specific case, see the interesting reconstruction of Lapenna and Toccafondi (2017) about territory as a model of complexity and modifications recalling different authors (Morin, Corboz, Gregotti, Secchi, Settis, etc.): «The quantity of interactions and links between humans themselves and between humans and the environment makes the territory a model of complexity (...) If we intend the territory as a complex system in permanent transformation, where new relations are generated, the process of creating and supporting 'links' is a way of planning the territory» but also «An essential precondition in the design phase is therefore the ability (...) to understand the complexity and variety of this stratified 'historical experience'» (Lapenna and Toccafondi, 2017: 402-403).

THREE PHOTO ITINERARIES

Adamo Maio

MUGGIANO

A road sign defines the boundaries of the city, but it is not the reality. Muggiano: where residential and agriculture coexist, compete and blend. Where the farm is converted into residential. Where the countryside and the city converse while using two different codes.


MILANO

BOSCOINCITTÀ /PARCO DELLE CAVE/ PARCO DI TRENNO

Three parks, three different ideas with a common principle: to preserve green areas against a city that devours space. Parco delle Cave, with its wild nature; Parco di Trenno, with its rational geometry and areas for leisure; BoscoinCittà, with a social management of space. In between, adjoining places seeking their own identity. farm is converted into residential. Where the countryside and the city converse while using two different codes.


VIETA

PIAZZA D'ARMI/ PARCO PARRI/ CALCHI TAEGGI

Bisceglie station. A non-place, an empty space.
The sounds of the city: a land seeking a future.
Council estates disconnected from the context leading to Piazza d'Armi.
The barrack, its huge park and the series of isolated pavilions are in contrast with a small building for size and use. It symbolizes the decay of a urban realm.


ABACCHI
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Reply
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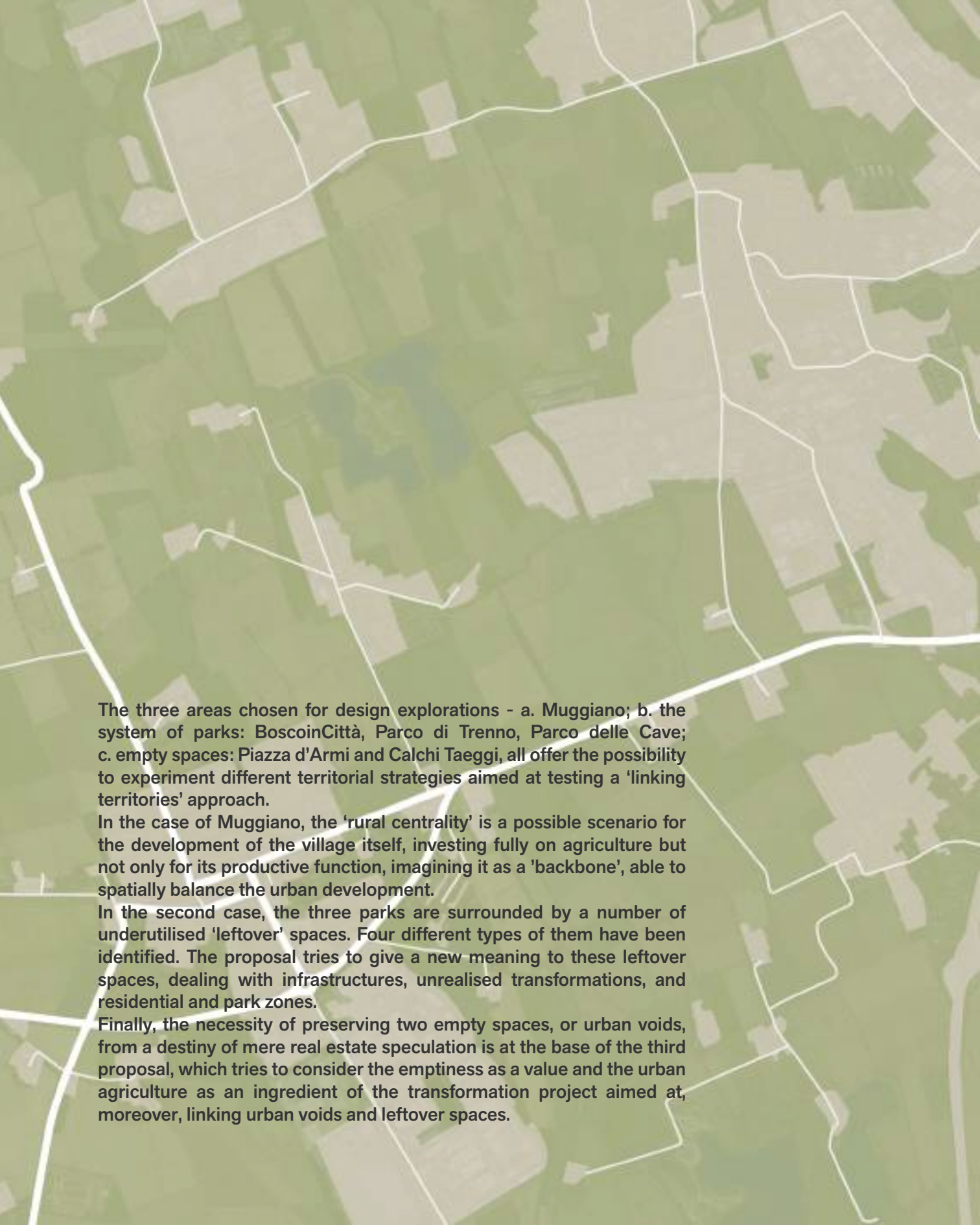
SECTION 3

PROPOSALS AND INSIGHTS

THE WORKSHOP'S OUTPUTS AND THREE REFLECTIONS ABOUT THE TOPICS



The three areas chosen for design explorations - a. Muggiano; b. the system of parks: BoscoinCittà, Parco di Trenno, Parco delle Cave; c. empty spaces: Piazza d'Armi and Calchi Taeggi, all offer the possibility to experiment different territorial strategies aimed at testing a 'linking territories' approach.

In the case of Muggiano, the 'rural centrality' is a possible scenario for the development of the village itself, investing fully on agriculture but not only for its productive function, imagining it as a 'backbone', able to spatially balance the urban development.

In the second case, the three parks are surrounded by a number of underutilised 'leftover' spaces. Four different types of them have been identified. The proposal tries to give a new meaning to these leftover spaces, dealing with infrastructures, unrealised transformations, and residential and park zones.

Finally, the necessity of preserving two empty spaces, or urban voids, from a destiny of mere real estate speculation is at the base of the third proposal, which tries to consider the emptiness as a value and the urban agriculture as an ingredient of the transformation project aimed at, moreover, linking urban voids and leftover spaces.

THE CASE FOR NEW RURAL CENTRALITIES IN AGRICULTURAL ENCLAVES: THREE SCENARIOS FOR MUGGIANO

Jean-Baptiste Geissler, Priscillia Jorge, Luca Minola, Mohammed Amine Saidi, Luca Tricarico, Giovanni Vecchio

« Architects and urbanists frequently look with envy to the foodies for their huge cultural accomplishment. They have not only created a new American cuisine of amazing quality, but they have had an impact on the supermarket, where decent produce and tasty, nutritious products are much less of a rarity than they used to be. » (Solomon, 2003: 15-16)

AGRICULTURAL ENCLAVES IN METROPOLITAN SETTINGS: BRIDGING OR NOT BRIDGING

Due to growing urbanisation and suburbanisation, many agricultural spaces became islands in the middle of the progressing city. The natural evolution of such enclaves is quite uniform: a more or less rapid decline of agricultural activities, due to accessibility difficulties, reduction of available land for farming and the emergence of alternative – more profitable – activities for people and spaces. In a second step, land price and productivity pressures often wipe out the former agricultural nature of the area, to the profit of logistic sites or residential areas.

In the last two decades, however, cities have increasingly become aware that these territories were latent potentialities rather than mere leftovers. Located in urban and peri-urban contexts, they often are composed by a patchwork of green spaces: parks, wild areas, agricultural friches and cultivated areas. The environmental value of these territories and the capacity of farmers to be important agents for environmental policy enforcement has certainly been one of the drivers of this renewed interest. More recently, issues of food production and food security also emerged as major planning issues (Morgan, 2009). Beyond these motivations, the landscape value of agricultural lands has also been underlined, for instance by Jean Viard (2008).

Cities now commonly include agriculture (both urban and peri-urban) in their strategic planning documents. Montpellier's metropolitan 2006 Schéma de Cohérence Territoriale (SCOT) for instance strongly stated that one of its ambitions was to preserve and retrieve agricultural and natural spaces. Its coordinator, Bernard Reichen, advocated for a radical lens-shifting exercise ("inversion du regard"). In the SCOT, the "natural capital" is seen as one of the territory's pillars, the agricultural and natural areas identified as the armature of the metropolitan geography (Montpellier Metropole, 2006).

Among European metropolises, the case of Milan is quite remarkable since the city very early developed a consciousness (around the late 1980's) of this issue and adopted strategies to counterbalance the natural trend of agricultural land reduction on metropolitan territories. The main institutional innovation has been the creation, by a regional law in 1990, of the Parco Agricolo Sud Milano (PASM). It has been explicitly designed to preserve and enhance the multifunctionality of agricultural land (landscape and environmental protection, productive activities, recreational and educative functions, etc.) (Targetti et al., 2010).

In spite of the progressive installation of strategic governance tools ("Piano Territoriale di Coordinamento" – Territorial Coordination Plan in 2000, "Distretto Agricolo Milanese" – Agricultural District of Milan, 2011), Milan did not manage to propose an integrated vision of the PASM territories' development. Actually, although the PASM had a very positive role in the preservation of agricultural areas (over 36 000 ha out of 47 000 of the park's total surface still have an agricultural destination), it can also be seen as having frozen the evolution of a couple of territories without providing them with alternative opportunities.

This frozen urban development logically left agricultural enclaves, small to medium areas of agricultural land surrounded by built environment. Muggiano, at the extreme west of Milan, is one of them. Administratively part of the municipal territory, but historically and independent borgo, that remains considerably cut out from the rest of the city.

MUGGIANO, SHIFTING FOCUS TO REFRAME THE ISSUE

Based on maps, pictures, academic works, planning documents and media sources, our initial comprehension was that the Muggiano area suffered from:

- Its isolation from other urbanized areas, and especially its separation from the rest of Milan by the "tangenziale" (Milan's ring road).
- The monotony of its landscape, dedicated to intensive agriculture.
- The coexistence between intensive agriculture and residential areas.

Figure 9 | Territorial framework. Muggiano, an island in the outskirts of Milan. Source: the authors

Muggiano's situation is however a quite exceptional one. It departs from the prejudices one could have on an agricultural enclave and only direct field observation can allow grasping (part of) the complexity of that territory.

The first thing we understood, following the narrow roads between corn and rice fields, was that the Muggiano's enclave landscape is everything but boring. The diversity of cultures, often separated by a line of tree, offers a pleasant patchwork of colours. Small to medium canals run through the territory, as a network of veins bringing blood to this four-hundred-hectares agricultural organism. Yet, the Muggiano enclave is not a bucolic cliché: frequent encounters with agricultural machines remind the visitor that the primary function of the land is intensive production. Muggiano also hosts numerous Cascinas, these traditional farms from Lombardy around which the agricultural production has historically been organized. In Muggiano, five Cascinas are still – at least partially – used for agricultural production: Molino del Paradiso, Corte Granda, Cascina Nuova, Cascina Guascona and Cascina Moiranino. Another Cascina had a productive function but is now slowly becoming a ruin: the 'Borgo d'Assiano', located at the main 'entrance' of Muggiano enclave.

This diversity of rural landscape is however highly contrasted by the banality of the 'urban' Muggiano. Beside a few buildings of architectural interest in the historical part (including two cascine, one still active the other turned into housing; see also Bianchi & Bianchi, 2006), most of the built environment is composed by slowly (but surely) degrading standard residential complexes as well as unused and poorly maintained public spaces (chiefly the park and the central square).
An encounter with the head of an important farm allowed us to understand the great challenges that agricultural production in the Muggiano was facing. The first one would be the insufficient availability of skilled young workforce to maintain the activity.
Another one would be the sustainability of this type of production, disconnected from the immediate environment (very few short supply chain), relying on important subsidies from EU and without the possibility of long term development strategies. Similar issues are central also in the projects proposed to address the regeneration of Muggiano (e.g. Dam, 2007).
The problems therefore appeared to be:

» The declining attraction of the territory for populations and activities.

» The necessity to transform and relaunch agricultural production in order to maintain it.

THREE SCENARIOS FOR MUGGIANO

We first adopted an incremental approach, trying to understand what could marginally be improved in order to tackle the main two challenges of the territory, namely its declining attractiveness for people and activities, and the slow decline of its agricultural production model, that needed to be reinvented in order to endure.

Therefore, although we tried to develop a global territorial reflexion, we drew a typology of four different spaces with untapped potential or a need for transformation, allowing us to understand precisely what could be done concretely to start addressing the two problems detailed above:

» Muggiano's urban "centre", and especially its central square that is crucially needing revitalisation

» The "Fringe" between urban and rural Muggiano, a porous space where the limit between an urban park and the surrounding fields is hard to delimitate.

» The "Borgo d'Assiano", entry point in the territory, that has an important untapped potential and that, should it be renewed, could direct existing fluxes towards Muggiano rather than around it

» The Parco della Cava di Muggiano, an already active leisure area, connecting natural and agricultural spaces.

Yet, this marginal approach soon proved to be insufficient and lead us to focus on details and loose the holistic vision of the territory, therefore barring us from comprehending the full range of implications of our project.
We used the two axes of understanding described above in order to define trajectories for potential development scenarios (Hillier, 2011), to stimulate our reflection on the territory's future.

Figure 11 | Natural landscape_"Lago dei cigni" Muggiano.
Source: the authors

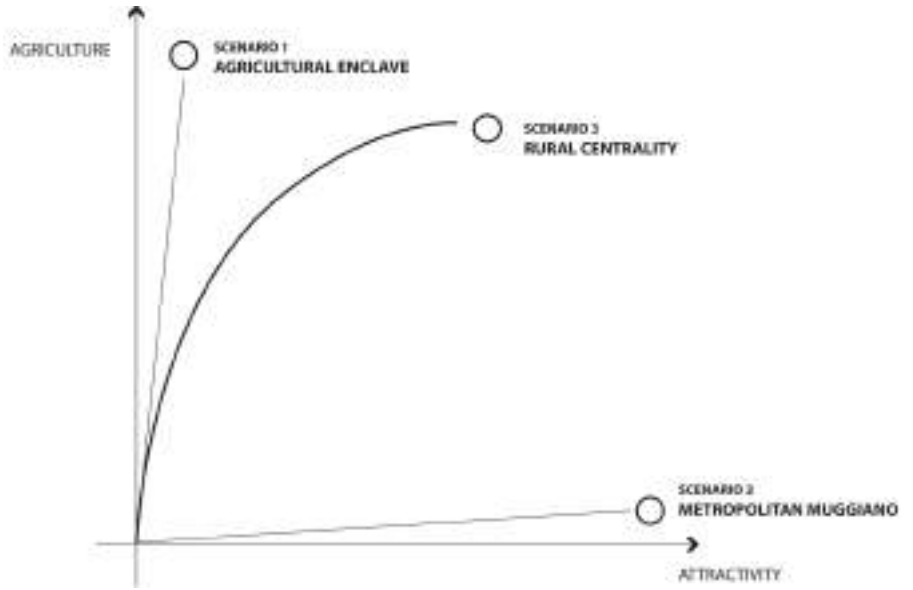


Figure 10 | Forecasting future scenarios. Source: the authors

SCENARIO 1: AGRICULTURAL ENCLAVE

This scenario is principally focused on maintaining the productive agricultural function of the area. Our interpretation is that business as usual is no option for this declining sector. Important investment in innovation and production diversification are crucially needed. The renovated Borgo di Assiano would be the epicentre of this renewal, concentrating research activities. The connection with the urban part of Muggiano would be achieved through the creation of the local farmer's market on its central place. This layout could be related to some of the practices of exchange between the environmental features of the area: "projects that invite citizens to be involved in ecological research in their own backyards or neighborhoods may provide rich opportunities for community members of all ages to improve their science literarcy" (Evans et. Al., 2005: 589).

SCENARIO 2: METROPOLITAN MUGGIANO

In that scenario, all of the effort would be directed towards improving connectivity with the rest of Milan's municipal territory. The goal being increasing the residential attractiveness of Muggiano in order to re-densify it and attract new services. The urban complexity would then be enhanced. The feasibility of that scenario remains however highly dependent on the realisation of current heavy infrastructure projects and chiefly the extension of Milan's metro line1.

SCENARIO 3: RURAL CENTRALITY

Like scenario 1, it would actively build on Muggiano's agricultural identity with the idea that innovation is key to its sustainability. The Key driver of the area will be based on the networking between the social innovation experiences within Milan Municipality, such as practices of urban agriculture and innovation in public spaces regeneration (Tricarico, 2014: 14-16). It however diverges from scenario 1 in the sense that it also places multifunctionality as a cornerstone of future developments. Recreational and educational features here appear as important as productive ones. The spatial projection also differs from scenario 1: rather than concentrating activities around the Borgo di Assiano, it is articulated around a transversal backbone. This scenario embraces the dual multiple nature of Muggiano (rural, urban, natural and recreational), aiming at blurring the border between uses and spaces. It could find inspiration in Montepellier's 2007 SCOT as well as in other planning projects, such as the "Plaine Montjean", being currently developed in the South of Paris[1]. In order to do so, it will make use of hybrid forms such as agricultural parks, inspired for instance by the neighbouring example of the Parco delle Risaie[2].

CONCLUSIONS - DISCUSSION: UNIFYING BY DIVERSIFYING

Direct observation on the field allowed us broke a lot of prejudices and common-places that could be had when thinking about an agricultural enclave. It even reversed our perception of isolation, that we understood no longer as a weakness to be thought, but rather as an advantage providing opportunities to develop an independent territorial identity instead of becoming a satellite of the strong surrounding attraction points. Among the three scenarios presented above, the "rural centrality" one appeared to us as the most stimulating, for it was the one with both the highest potentiality and probably the highest complexity as well. The potentialities are evident, for this scenario is the only one integrating fully the territory of the enclave, along a spine of strong places going from the Borgo di Assiano to the Parco della Cava di Muggiano. Yet, precisely because it is the most integrated one, it bears in itself an important amount of potential contradictions and even conflicts. For instance, blurring the frontier between productive and recreational spaces, by integrating a "sustainability path" that would be in direct connection with fields, could generate problems in terms of access, but also safety. The complete panel of the controversies arising from such a scenario is of course still to be drawn. Yet, the position defended in the present paper is that it is only through a diversification based on its strengths that Muggiano would find a coherent and enriching (for both parties) place within Milan's metropolitan territory. Although it would be no guarantee of overcoming these difficulties, a sine qua non condition for having a chance to see this kind of scenario succeeding would be to implement an ambitious participation and concertation process. In that matter, any plan willing at reinventing Muggiano's development should take advantage from the consultation strategy experimented in the development of Milan's Food Policy on closely related matters. It started with the

Figure 12 | Scenario 1 Agricultural Enclave. Source: the authors

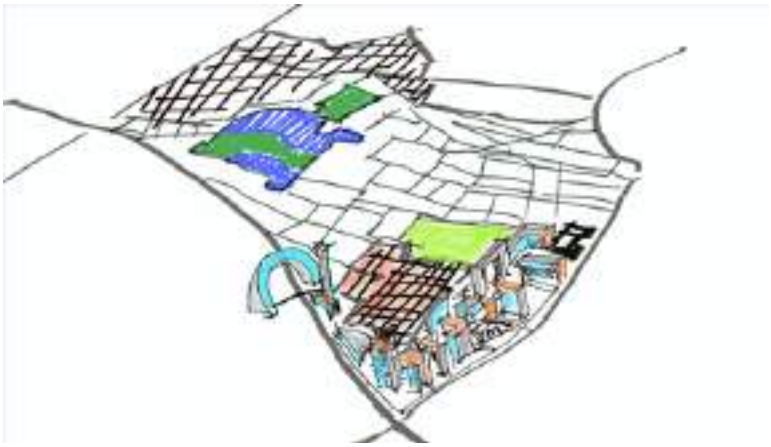


Figure 13 | Scenario 2 Metropolitan Muggiano. Source: the authors

Figure 14 | Scenario 3 Rural Centrality. Source: the authors

work of experts, synthetizing available data and main issues in a widely spread document.

This cornerstone was then used as a basis for consultation with stakeholders (private, institutions, third sector) and citizens of each of Milan's nine administrative subdivisions.

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NOTES

1 L'agroquartier de Montjean. Link (French only): http://www.epa-orsa.fr/Projets-et-operations/Colonne-3/Rungis-Fresnes-Wissous/La-plaine-de-Montjean/L-agroquartier-de-Montjean

2 Il Parco delle Risaie. Link (Italian only): http://www.parcodellerisaie.it/it/

LINKING "VISIBLE AND INVISIBLE" METABOLISMS AS A POWERFUL METAPHOR AND TOOL TO DESIGN RUR-URBAN SYSTEMS

Gianni Scudo

INTRODUCTION

The "Allegoria del buon governo" frescos in Siena's Palazzo Pubblico provide figurative evidence of the symbiotic - metabolic processes governing town and country landscape and territorial systems. The end of the "buon governo" generated "in-between" landscapes in Italy, which have lost – often permanently – their socio-physical local metabolism. With the environmental crisis, there is a growing movement to once again pair these two conflicting worlds and promote opportunities for a "deep" and self-sustaining local development of new rur-urban territories based on culturally and socially inclusive life styles and spaces supported by trans-scalar sustainable metabolisms and local "prosumers" processes (fluxes of energy, material, information in the home, neighbourhood, city and region). The concept of an urban metabolism defined as "all the materials and commodities needed to sustain the city's inhabitants at home, at work and at play"[1], provides a comprehensive basis by which to understand and characterize the flows of resources and residuals associated with the built environment at different scales (house, neighbourhood, city, territory).

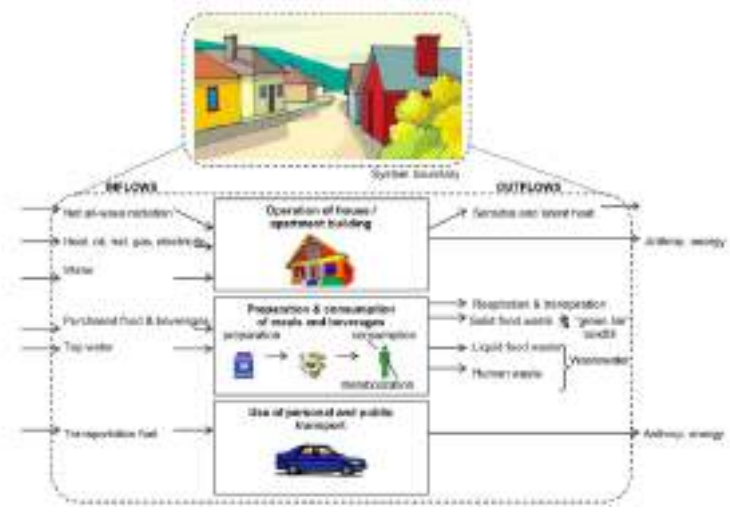

Figure 15 | Scheme of metabolic fluxes in a neighbourhood.
Source: Codoban and Kennedy Toronto 2008

Much of the metabolism, in terms of flows and stocks of water, energy, materials, nutrients/biomass and air, is not visible. Therefore, the general consciousness of its negative effects on people and places is not very high, unless environmental pressures – in terms of the effects of air, soil and water pollution, climate change etc., become visible through the extreme degradation of urban/rural environments and landscapes which affect the lives of humans and the planet as a whole. But when the effects are 'bulimic' and the metabolism becomes perceptible, it is often already too late to intervene in a structural way. As 'educators' of architects and planners, we have the ethic responsibility to combine 'visible and invisible', in the subtle relations which link 'natural processes' to 'productive processes'. These relations are embedded in the physical 'forms' of our built environment at different scales. The flows of energy and materials, which feed our 'town and country' lives in an extremely inefficient way, has caused the actual environmental crisis[2] and must be reduced by a factor of 10.
In our 'territorial perspective'[3], local metabolism is not a simple design for the 'rationalization' of resource flows (a management approach to increase the eco-efficiency of local metabolic productive processes), but a stimulating tool to promote locally based consciousness, knowledge, designs and actions to re-generate landscapes, production, and the "buen vivir" of our territories.
Local communities, authorities and design professions (i.e. Architects, Planners, Designers, resources management Engineers, etc.) require new knowledge and tools to more deeply understand the actual "bulimic" metabolism and empower design scenarios based on new slim socio-metabolic processes.

FEIP - FOOD AND ENERGY INTEGRATED PLANS

The tool presented contributes to integrating metabolic analysis in environmental design at local levels. The aim of Food and Energy Integrated Plan – FEIP - is to promote integrated local agro-food and energy systems able to provide a self-sufficiency in terms of food and contribute to meeting the energy demand for housing, transport and services, while also providing an adequate income for urban agriculture practices. FIEP complements food planning in Sustainable Energy Action Plan - SEAP - developed by the Covenant of Mayors and has been developed in the cultural milieu of the Bioregional approach[4], which promotes Trans-scalar supply and demand chains where resources (i.e. food and energy) are grown, produced, sold and consumed within a certain territorial unit.
In this experimental phase on territorial analysis and implementing development scenario tools, a small territorial system has been chosen: the Albairate municipality in Milan County, within the South Milan Agricultural Park (PASM).
The optimum scale for effective local self-sufficiency strategies is generally trans-scalar: region, metropolitan area, town and neighbourhood.
FEIP is supported by the Elar methodology (Eco dynamic Land Register) (Clementi 2008; Clementi, Scudo, 2009; Scudo et al. 2014), which was developed to highlight and rethink the metabolism - energy and materials flows - which feeds people's activities from a self-sufficient territorial perspective. The analysis was produced with open-source Geographic Information Systems.
The elaboration (and communication) of the results are provided by two basic tools: 'Resources and impacts geographies', 'User histograms'.

RESOURCES / IMPACT GEOGRAPHIES

The first tool quantifies supply chains and locally available resources. Production chains are georeferenced in a graph (vectors and nodes). Two different indicators quantify the environmental impacts associated with the different nodes of the supply chain: the use of primary, non-renewable and renewable energy sources, expressed in MJ equivalent.
Resource geographies are a set of locally available renewable resources maps. The GIS data-base provides information on the climatic conditions for actual land uses and geo-morphological aspects etc. (Fig. 16). This data archive provides useful information to identify the current potential local renewable energy supply.

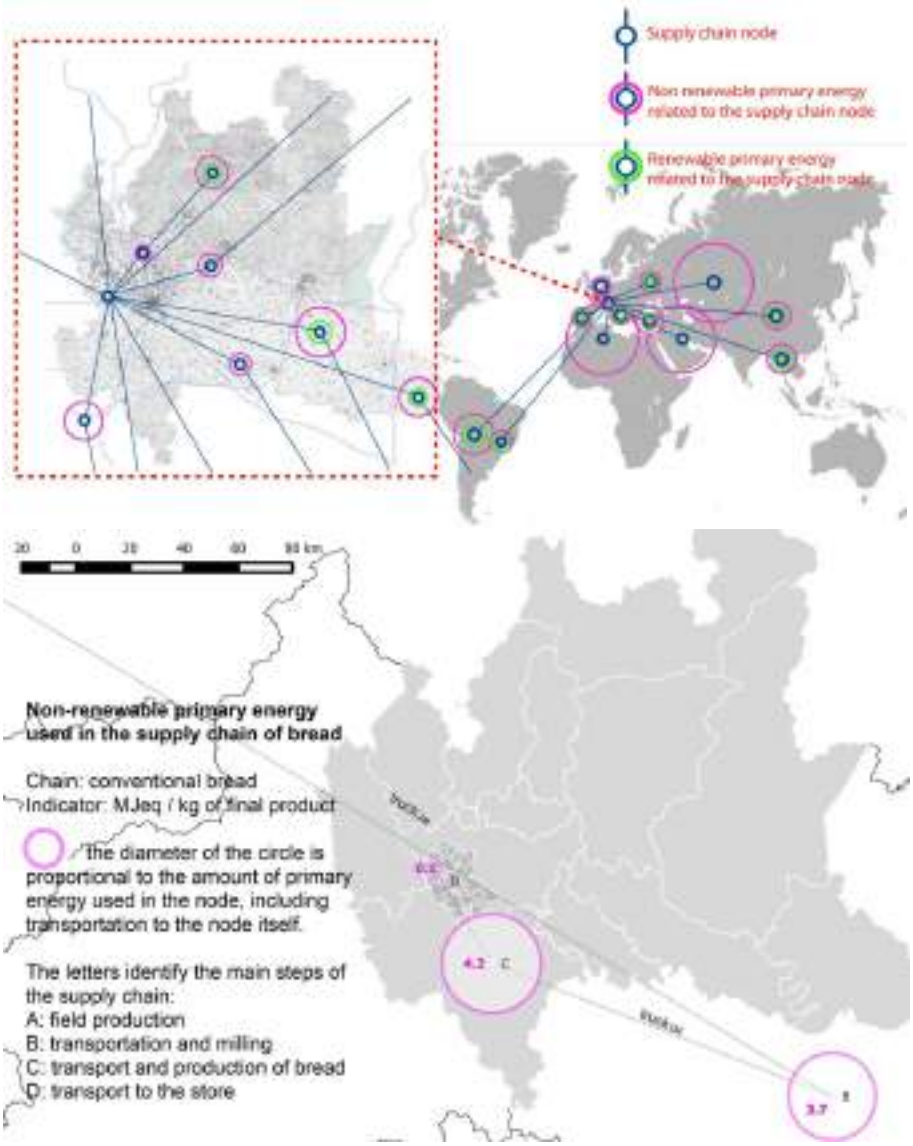

Figure 16 | Impact Geographies associated with the consumption of primary energy, concerning the Local Demand of Energy and Matter (LDEM) in Albairate. Mapped supply chains are representative of the scenario 1 presented in the results of this paper.

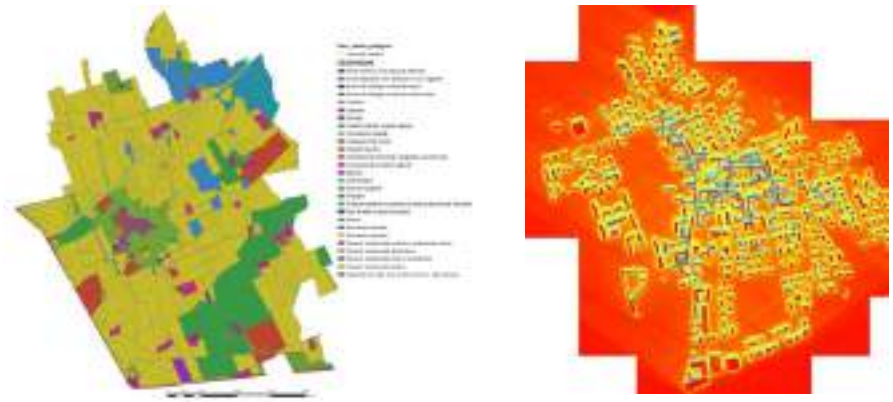

Figure 17 | Some maps of resource geographies in Albairate (Lombardy region), on the left, a land use map, and a solar radiation map on the right.

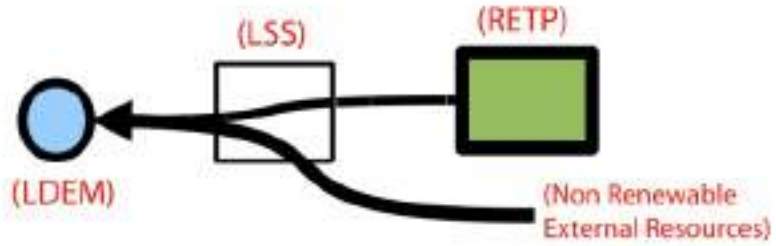

Figure 18 | General synthetic structure of a user histogram. LDEM Local Demand of Energy and Matter; RETP Renewable Technical Potential, locally available; LSS Local Self-sufficiency Scenario.

USER HISTOGRAMS

The user histograms create a connecting structure between the information collected in the geographies, in order to review different design choices. They report in terms of per-capita local energy and matter demand flows and relate them with the extension of productive per-capita land. A general histogram structure can be easily understood through the following diagrams in Fig.18 and Fig. 19. As shown by the arrows, the histogram describes energy and matter flow directions from the right to the left. Consequently, the right side of the histogram contains information on the resource supplies (RETP Renewable Technical Potential, locally available), where information on local renewable supplies are given.
The left side reveals information about the Local Demand of Energy and Matter (LDEM).
The central part houses strategies of possible design choices in between local renewable energy/matter supply and demand (LSS Local Self-sufficiency Scenario). They perform the main function of connecting local demand and supply.
The image below shows an example of user histogram describing the main components.
The extreme left of the graph shows data of energy and matter demand expressed in terms of the adopted indicators, in this case, the CO2 equivalent emissions. The quantities of energy and materials are aggregated into the consumption categories of housing, food and, marginally, of private transport in order to describe the total amount of energy and impact per person (on the extreme left) (Fig. 19). Such options allow to compare the data with reference to the threshold derived from European benchmarks[5]. The far right part of the histogram brings together the extensions of productive land per capita necessary for the three activities - transport, feeding, housing - and the amount of productive land per capita available. The different colours refer to the extension of productive land available per person (darker colour) and the extension of the available productive land interested by the application of good practices assumed in the scenario.

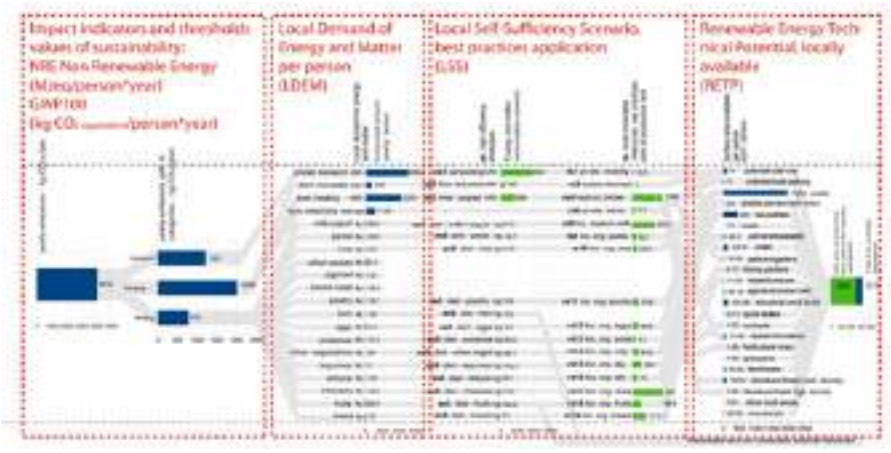

Figure 19 | Example of user histogram describing the main components.

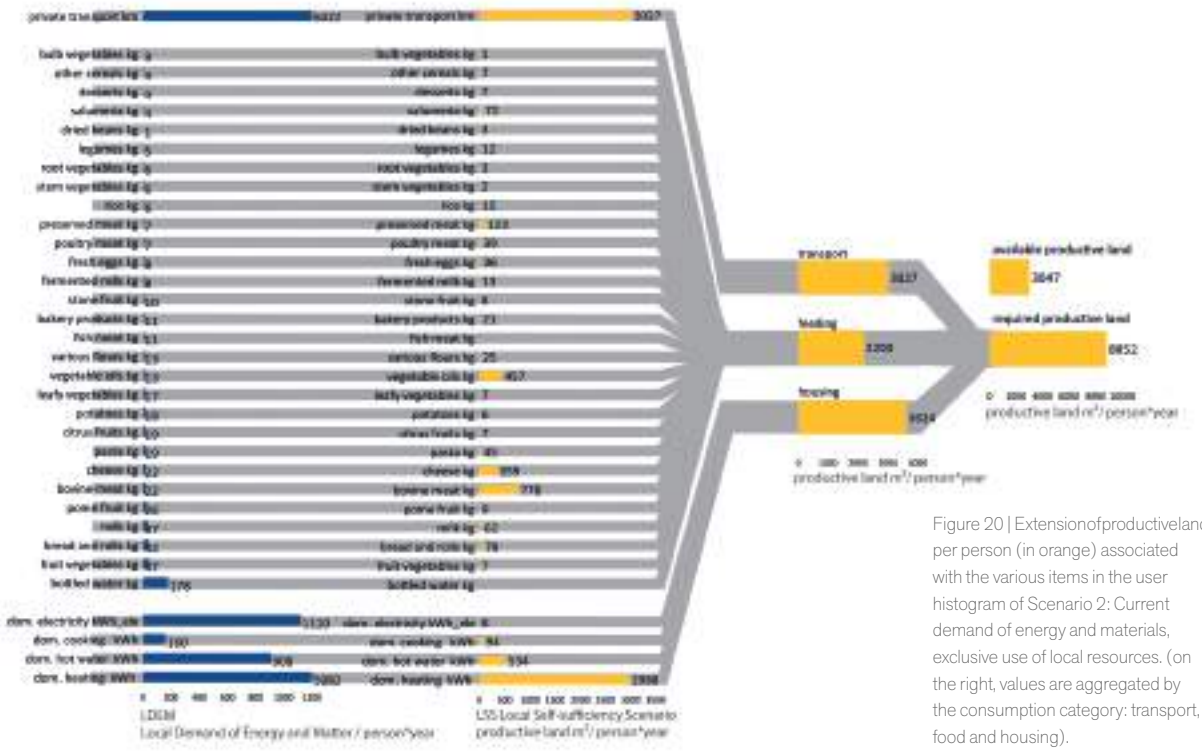

Figure 20 | Extensionofproductiveland per person (in orange) associated with the various items in the user histogram of Scenario 2: Current demand of energy and materials, exclusive use of local resources. (on the right, values are aggregated by the consumption category: transport, food and housing).

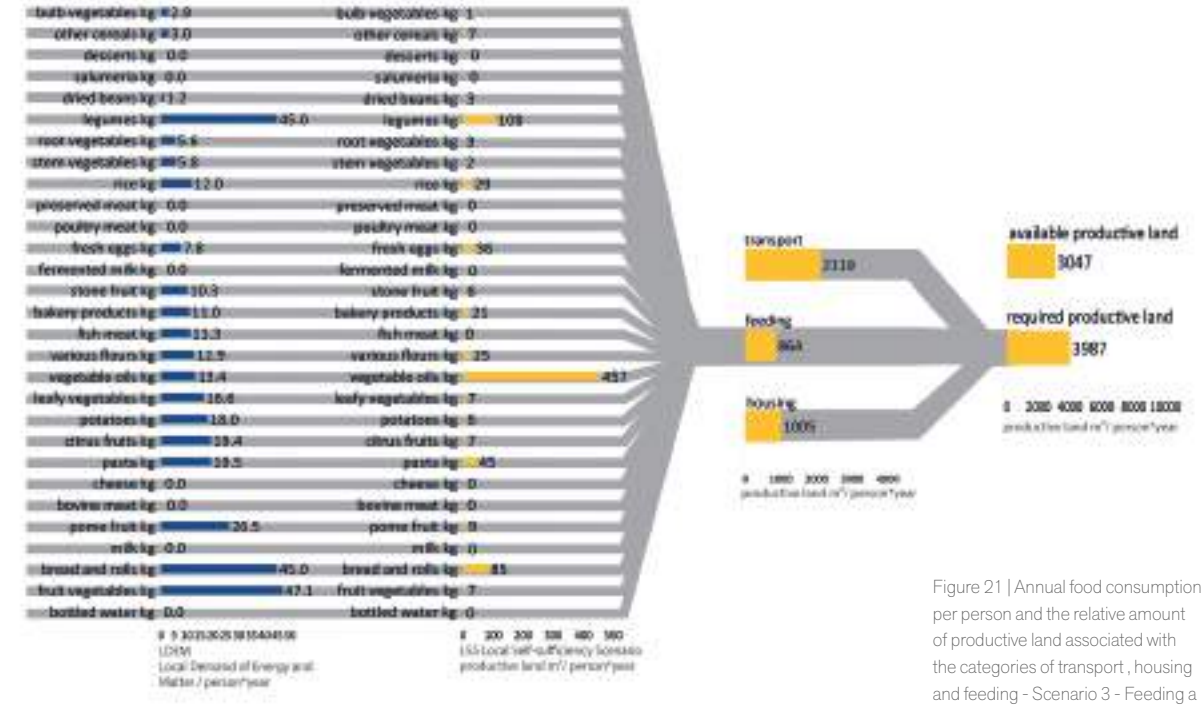

Figure 21 | Annual food consumption per person and the relative amount of productive land associated with the categories of transport , housing and feeding - Scenario 3 - Feeding a nearly vegetarian diet.

Figure 23 | Design for a new rur–urban structures: Cascina Compazzino in the Ticinello park: new multifunctional landscapes. Design developed inside the Laboratorio Integrato di Progettazione – Proff. F. Butera, A. Franchini e G. Scudo aa. 2012 – 13 (Studenti: Eleonora Schiavi ed Alberto Prinzio)

Figure 22 | Design for a new rur–urban structures: Cascina Compazzino in the Ticinello park as a multifunctional agri - hub related to cascina Cuccagna urban Hub. Design developed inside the Laboratorio Integrato di Progettazione – Proff. F. Butera, A. Franchini e G. Scudo aa. 2012 – 13 (Studenti: Eleonora Schiavi ed Alberto Prinzio)

The users histogram is a simplified tool to evaluate different energy metabolism scenarios for housing, food and private transportation, which have an important role in modifying rural urban landscapes.
For example, the current demand and use of local resources - Scenario 2 (Fig 20) - can be compared with an alternative scenario based strategies for energy and material efficiency and exclusive use of locally available resources - Scenario 3 (Fig 21) - represents a nearly vegetarian diet. Scenario 3 reduces housing heating demand to 30kwh /m^2/year, reduces 30% of private mobility energy through car-pooling and reduces feeding demand through a nearly vegan diet and other measures. The overall result is a move from 8852 to 3987 productive land/person per year, which is only 25% more of the available productive land of the Albairate Council. A reduction from a heavy to a relatively light metabolism, implying a change in the urban and rural productive landscapes.

CONCLUSIONS

"Back to the country" is not simply the title of issues 1 and 2 of "Società dei Territorialisti" or a mere common "motto". Rather, it is a kind of "password" to reverse the traditional town - country colonization activities into an innovative country - town symbiotic relationship. The revolution of alternative light urban - rural local metabolisms based on new individual and collective life styles and practices requires low energy, long life, loose fit, large sharing and large place consciousness. Low energy means a drastic reduction of dangerous, unequally distributed high energy demand and supply by local renewable energy sources. Long life corresponds to goods and services designed to last through appropriate local maintenance systems and reuse/recycling processes. Loose fit refers to goods and services with multiple uses, while large sharing means to have in common spaces, equipment and activities. Last, but not least, a consciousness of large places means local self-sustainable territorial development as a dynamic balance between nature and anthroposphere. In this context, we need development to evolve new trans-disciplinary rur-urban studies which includes the metabolic approach to specific territories.
We "suffer from the lack of sound metabolic understanding and consequently from lacking any metabolic design on a long term and large scale perspective"[6]. We serve as formal educators of Architects and Planners and have the ethic responsibility to combine the "visible and invisible", connecting techno-scientific and design cultures to deeply reshape the blurred "non places" of post-war urban growth. The metabolic approach can be a fundamental contribution to designing new future multi-activities in anthroposphere landscapes, sharing structures to feed, move, live and work inside a bioregional territorial approach. These new landscapes will promote conscious and deeply sustainable uses of local resources, starting from primary basic resources, namely the local organic agricultural systems. Fertility and bio diversity as basic requirements for food sovereignty combined with health, educational, therapeutic, economic and aesthetic requirements will contribute to regenerating actual "in – between" rur-urban territories and landscapes. These new territories, based on place consciousness, will integrate ecosystem services in rural - urban environments through a "land sharing" approach. This view will mix together, in a renewed anarchic view[7] of the neighbourhood and city park, open wheat, rice and grass fields; gardens, fruit orchards and vegetated edges along streams and woods in a vision of a new town and country landscape (the new "forma Urbis et Agri"[8], deeply rooted on long term sustainable metabolic scenarios based on food, water, land and energy sovereignties).

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NOTES

1 The concept, as we use today, was introduced by Wolman in 1965. Since then, the interest has been pursued with renewed interest since the 1990s. See: Baccini Brunner, Newman, Kennedy, Codoban amd Kennedy, Ferrao and Fernandez, Rapoport, Acebillio.
2 See the third volume of the fifth report on Climate from the IPCC on mitigating the impact of climate change http://mitigation2014.org.
3 Other than the noted contributions of Alberto Magnaghi, see the first numbers of the journal Scienze del Territorio, in particular numbers, 1/2013 and 2/2014 Back to the Country, free download is available the website of the Società dei Territorialisti: www.societadeiterritorialisti.it.
4 For a short critical indroduction of the Bioregional Approach, see: Sale K.; Fanfani D. e Saragosa C.
5 For Primary renewable and non-renewable energy consumption, threshold values are borrowed from the 2000 Watt-Society program.
6 See Baccini P, Brunner P. H., pag. 360.
7 The social mutuality movement in fields, factories and workshops renewed in the '60ies by counter cultural movement, See: Kopotkin and Bookchin.
8 Definition elaborated by Società dei Teritorialisti/e research works. See: Ferraresi (2009).

EXPLORING THE POTENTIAL OF LEFTOVER SPACES IN THE WESTERN REGION OF MILAN

Xavier Djimassal, Zachary Jones, Maryam Karimi, Amina Koliai, Shuyi Xie

DIAGNOSING LEFTOVER SPACES

In the western region of Milan, just beyond the main fabric of the city, but not yet in an area that can be classified as the countryside can be found the lingering remnants, so called "leftover spaces". What makes a space "leftover"? Can they be reintegrated and regenerated into the surrounding area? This project sought to answer these questions. Our work was guided by a vision of transforming and activating the critical leftover areas into meaningful and functional spaces.

Specifically, we were addressing areas found around three major parks, BoscoinCittà, Parco di Trenno, and Parco delle Cave. While these major venues were naturally a significant factor in considering the uses of the 'leftover' spaces, they also served as a source of inspiration for our own work. In their own way, each of these three now thriving parks were once considered 'leftovers' of the city. Once abandoned and unused spaces, they eventually were transformed into the active and vital spaces they are today through a variety of processes and mechanisms, ones which we would do not intend to merely replicate, but learn from and employ in our own scenarios, albeit at a reduced scale. Therefore, applying lessons learned from the parks at a city scale to leftover spaces at a local scale therefore became the model for our working concept.

Our first step was to define the qualities of a leftover space as well as to understand the specific contributing factors that created these leftovers. We identified three crucial aspects that contribute to a space being perceived as leftover: the lack of a morphological physical quality; use or functions leading to activity or productivity; and interests or actors directly and indirectly involved in the management of these places. Through the analysis of the area surrounding our three parks we identified a number of spaces that qualified as 'leftovers' where there were a combination of these three factors missing in varying degrees. Through our analysis of the area we found one key contributing factor to the creation of so many leftover sites was the overlay of an urban system onto a rural one. Though only few traces remain, the organizing principles of the earlier rural space contained a logical order that pertained to the needs of that system. The most important and strong trace of this system is the canal system that can still be found throughout this region of Milan.

Figure 24 | Part of the historic canal system. Source: the authors

Milan was historically a city of canals (Sistema Metropolitano Milanese, 2015), though much of this history has been lost as the canals have been filled in or moved underground. Within the area of the city that we are focusing on there is a number of these canals, although small, can still be found. Containing an important heritage value, these small canals are part of a cultural landscape that has been largely lost and therefore preserving them, as well as reactivating them became a central theme to the work (Morin, 2004). The project therefore held the opportunity to not only benefit the forgotten leftover spaces, but also find new uses and purposes for these historic canals that in turn would benefit them and ensure their own longevity.

In making the canals part of our work, we had to be aware of the sensitivity of this component. As part of the recent 2015 EXPO, a project to renew as well as construct a new canal was proposed (Expo Milano 2015: La via d'acqua sud, 2015). The Via D'Acqua, as it was entitled, was intended to connect the EXPO site in the Northwest territory with the rest of the city. Originally celebrated, the project ended in turmoil and was eventually cancelled. To create this water connection, an entirely new and somewhat intrusive canal was to be built through existing areas, including the parks of our area. This project meant a great deal of destruction of natural and park areas. After a number of protests against the project, the Via D'Acqua was eventually cancelled (Valletti, 2015). While this project also promoted the rejuvenation of the canal system, it did so in a heavy handed and forceful way. Therefore, our project proposed to use only the existing canals through a number of soft interventions to bring attention and awareness to the existing and historic structures.

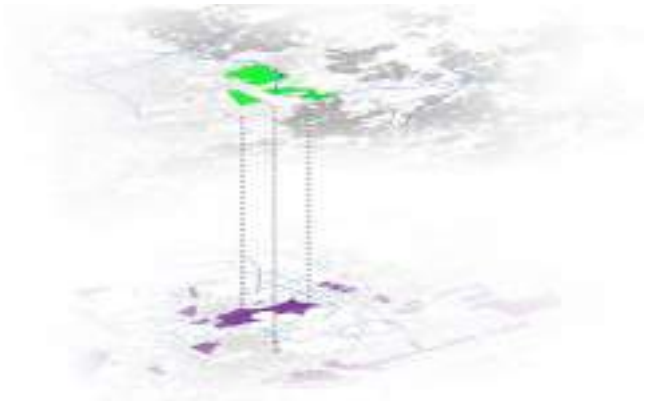

Figure 25 | Concept diagram transferring city scale approaches to the local level. Source: the authors.

Figure 26 | The four leftover areas: 1- Infrastructural, 2- Unrealized Transformation, 3- Residential, 4- Park. Source: the authors

With our conceptual base, definitions of leftover spaces, and identification of the potential of the canal system, we proceeded to identify the leftover spaces within the region. Through our definition of "leftover" we identified the critical fragmented spaces that can fit in our three criteria. A range of spaces with varying features, locations, and sizes were collected. Not possible to develop a specific project for each site, we opted to develop a series of prototype projects that could be implemented within these different 'types' of sites. The final group that was selected was in part chosen for these sites' relation to the historic canal system. The four areas chosen were representative of different local contexts within the larger area. These four 'types', which could be developed as prototypes based on their immediate surroundings are: Infrastructural, Unrealized Transformation, Residential and Park leftover spaces. The responses we developed for these areas were not intended to be hard solutions for the sites, but thoughtful design reflections on the current issues facing the sites and some of the possible catalysts to revive these spaces. Learning from the parks and working with our definition of the problems of leftover spaces, these design responses primarily focused on the tangible and intangible qualities of the paces, programmable and/or productive functions and invested actors or organizations that could take manage sites (Serres, 1992).

INFRASTRUCTURAL LEFTOVER AREA

As its name implies, this leftover area is surrounded by heavy infrastructure, more precisely: transport infrastructure. The site is neighbored on one side by the train line with San Cristoforo station located nearby. A highway crosses the area from north to south and also provides access to the site. A key feature of the site is the canal that creates a strong edge condition for the site as well as a smaller underground canal that goes beneath the site. In the nearby areas can be found factories and residences, a playground and a football field located on the north side of the area. The site contains some small agricultural plots and borders a bike path, but is otherwise largely unused. Despite some potential outstanding advantages, particularly the landscape belt along the water, the area in today is leftover with poor physical quality, few uses and functions and no management. These problems are in part result of a general lack of access both from the surrounding and to the water

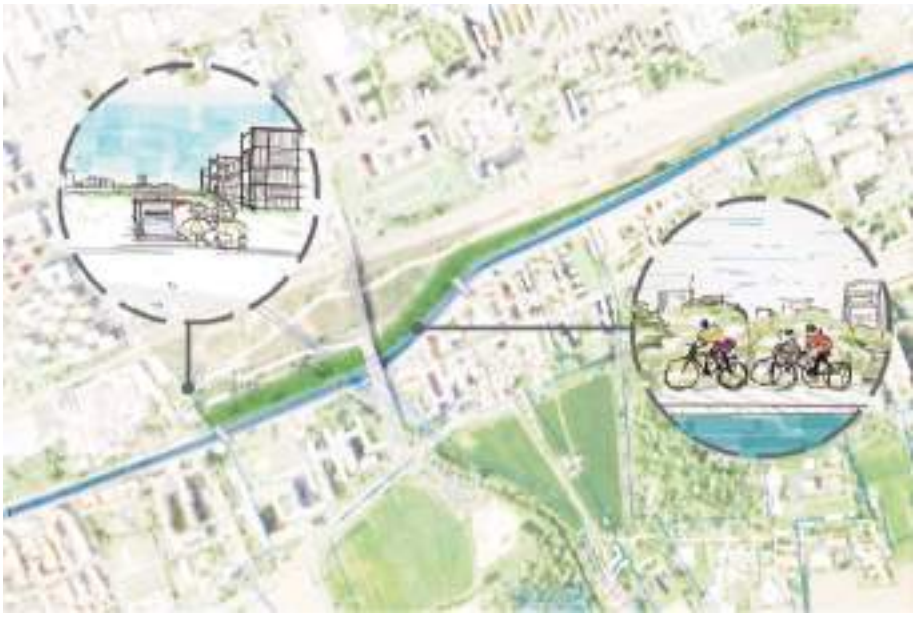

Figure 27 | Design intervention for the Infrastructural Leftover Area showing new connection to water. Source: the authors

with a series of walls, fences and vegetation separating the site from directly relating to the canal. Historic aerial maps from 2001, 2007 and 2015, reveal the evolution process of this leftover area over time. Specifically, the highway project was implemented post-2001 and by 2007, some garden plots have appeared with informal walking paths and partial biking lanes implemented. However, the main concern is that today, the area is further abandoned experiencing severe soil pollution from the abandoned industrial infrastructure located on site.

In terms of future development, the neighboring inhabitants and the current users of the inside public space and garden plots could become the potential actors to involve in revitalization of the site. To better allow and encourage local involvement, we identified connectivity at the key issue here. First, removing the physical barriers to the canal to provide for direct access and possible use is an important step. As other successful areas in Milan have shown, such as the Darsena, water can be a vital resource for the city in revitalization efforts (Bocchi et al., 2013). If these initial efforts create increased interest in the site, a second proposal would be to make the area more accessible to local neighborhoods with a series of new pedestrian bridges. Besides, the effective and feasible measures for soil remediation could not be ignored. These 'kickstarter' efforts could then bring new uses to the area and utilize existing benefits such as the industrial structure already located on the site. The bike path that currently skirts past the site, could be re-routed to include this site as part of its trajectory, even becoming a destination for users.

UNREALIZED TRANSFORMATION LEFTOVER AREA

As described above, the selection of our sites was based on the three following criteria: the conceptual basis, the definition of leftover spaces, and the potential of the canal system. These areas, with different sizes and different locations, are all in the same incomplete stage of transformation. The second prototype area selected has a particularly close relationship with the historic canal as the canal cuts through the site. Located in the district of Bisceglie, south of Via Ferruccio Parri and north of the highway SS494, the plot is directly across from the Bisceglie Metro and bus station and therefore is both highly accessible and already experiences a high volume of commuter traffic. The currently abandoned site, was actually once a thriving agricultural zone that was abruptly halted as the site was selected for re-development. With the financial crisis of 2008, the project was abandoned. Wedged between the parking lot of Besceglie station, nearby business towers and factories, the site has remained empty without a program or function, like a wasteland in the middle of a now growing area.

Figure 28 | Design intervention for Unrealized Transformation Area showing 3 phases. Source: the authors

The current condition of the site is entirely fenced off with barriers, making it unreachable, neglected and invaded by overgrown vegetation. The canal splits the site in two, but no development plans have been realized nor appear to have any intention to be. Unfortunately, all the actors that had previously cared for the site have been removed.
To reactivate and revitalize this area, we propose taking an alternative approach from that of the developers which sought to remove all prior usage of the site. With the knowledge that there had been an invested group of 'caretakers' of the site, we intend to reactivate this former site through inviting this small scale agriculture back to the site to take advantage of direct access to the canal. With this independent vegetable garden pilot project, on one side of the canal, it could come to act as a catalyst for future site development and growth. If successful, the second stage would be to introduce an economic driver to the site through a local produce market, located on the side next to Bisceglie station. This market would enable a local production system, in which a possible extension is agreed in the second part of the site as the business grows over time. By establishing the local market as a resource for the larger community it could promote future development on site, but ensure that past mistakes are not repeated and allow for the continuation of an agricultural presence on site.

RESIDENTIAL LEFTOVER AREA

In considering the larger region of Milan that our project resides in, much of it is currently residential. Therefore, in considering our four prototypes, it seemed necessary to include a space within a residential complex. The particular area was chosen primarily for its proximity to the historic canal as well as some other aspects that assist us for some small design interventions. The area is located 500 meters west of Bisceglie Metro station and the arterial roads surrounded the area creates an easy access for residents through Via Ferruccio Parri in the south and Via Viterbo in the north. This particular area, along with the surrounding area, have been recently faced with fast paced development as in contrast to the other sites. This site is the leftover space of a recently finished newly built housing complex, but has been significantly under designed and therefore remains an underused green space.
Aerial photography over the past fifteen years ago reveals the potential of canal and water as a catalyst in terms of creating a new effective green space for this residential area as the canal passes directly underneath the site, but has been covered up as part of recent development processes. The bridge that passes over the site is also a result of recent highway constructions and could come to act as an access point to this new location instead of just a means of egress.

Figure 29 | Design intervention for Park Area showing integration into surroundings. Source: the authors.

As mentioned previously, a key factor in the selection of these particular leftover areas, is their close relation to the historical canal system. Firstly, to take advantage of this valuable asset and secondly, to have a consistent approach within our interventions for other leftover areas. As part of our analysis revealed these leftover spaces result from the overlap of urban form onto pre-existing rural space, with this particular site a piece of a recent development, we recognized the opportunity to highlight this previously existing organizing logic of this area and use it as a tool to bring function and activity to this currently unused space.

The newly constructed apartments are organized around this leftover space, but new residents are likely entirely unaware of the presence of the historic canal underneath the space. With a lack of any clear public space, pathways or outdoor furniture, the space is currently unappealing to local residents. Therefore, our small proposal intervention would be to create an inviting place for residents in a way that invites them to consider the area as their own front yard and give a sense of ownership and desire to manage and maintain the area. To reactivate the space and invite local residents to use it, we propose re-opening sections of the canal beneath the park space that could activate new uses for both leisure and productive activities such as public gardens, an art sensory experience and children's pools. In this space we see the water itself as the revitalizing force that can make the area more attractive and desireable, as well as educational. Instead of these new developments merely erasing the memory of the past as they often do, this project could use the past as a key element in creating a more vibrant and successful community space.

PARK LEFTOVER AREA

As described in the introduction, the inspiration for our design process was taken from the three main parks in the area. With these parks as a major component of the project, the final leftover space to be selected was an area surrounded by this park system. The site is located to the north and east of Parco delle Cave and covered a large area which is almost 11 hectares. Along for this area's proximity to the canal system, the site was selected for its underused and underdeveloped condition as well as the current difficulties in accessing the area from the park and surrounding residential areas.

The current and recent use of the site has been that of a landfill. Previously part of the quarry system that the rest of the park was developed from, this portion of the park was never included in the same regeneration efforts. Currently in this land there is no regular activity, but is in proximity to an operational Cascina as well to neighboring residential areas. Both these assets could provide opportunities for minor interventions that might transform the site.

Figure 30 | Design intervention for Residential Area showing reconnection to canal. Source: the authors.

One unexpected advantage of this landfill is the abundant waste construction material which could have the capacity to be recycled.
To reactivate and revitalize this area, we took into consideration the current passive stakeholders and devised an incremental plan in order to establish a link with the neighboring residential areas (Younès, 2010). The proposal is to connect this 11 ha site with the existing operational cascina by establishing educational agricultural practices. The existing waste material would be recycled to create the necessary garden planters and facilities. While other local gardening plots are available to the public, there is a 1-2 year waiting list to actually acquire a plot. Therefore, there is an existing demand for additional community gardens. Also in order to develop a productive agricultural economy, the educational activities will become an instrumental process to provide on proper techniques and pass on long standing local knowledge capital.

CONCLUSIONS

This research by design workshop provided the opportunity to consider issues that are by no means limited to the Milanese situation, but can be found in many post-agrarian European cities in transition. By considering the particular needs of these areas we identified and focused on the phenomenon of 'leftover' spaces often created in these urban/rural spaces. Ranging in scale, condition and context we chose several sample spaces to analyze and consider, proposing a number of soft interventions that might provide new life to these areas so they might no longer be considered as mere 'leftovers'.
While we turned to a variety of different possible solutions, we recognized the precedent set by the 3 larger parks within the region and the processes used there to transform them from large leftover spaces into functioning, valuable areas in the city. The main approaches were therefore to reintroduce a functionality to the site, identify potential actors to manifest a sense of ownership of these spaces and improve the physical condition of these areas. In each of these four prototypes we propose an incremental implementation that would allow for gradual growth over time in an attempt to bridge the divide between the former rural nature of these spaces and the more recently implemented urban system that was indiscriminately applied to the area. By attempting to reconnect these areas over time we hope that a natural symbiosis can be reached where these current 'leftover' spaces become vibrant and valuable areas for their communities.
The key element throughout the design process was the use of the existing water system that connects all of this region. Each project utilizes the historic canal in a different way, revealing the versatility of this resource. As in the unrealized transformation and park areas, we can envision the water

source acting in a utilitarian manner where it can be used to support agricultural efforts leading to eventual economic benefits and activities. The infrastructure and residential areas on the other hand propose to take advantage of the improved quality of space that the introduction of water would bring to those sites by making them more attractive and connected to their past. This project examines spaces that are often perceived as challenging and difficult to address by considering a range of incremental interventions that could be used to reintegrate them into their surrounding contexts and become valued places once again.

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THE SCALES OF URBAN AGRICULTURE

Didier Rebois

Reconciling ecology, agronomy and urban development is a challenge for the development of territories and contemporary inhabited areas. It implies a change of perspective and a deep revolution in the behaviour of those involved, both for agriculture and in the development of urban society.

WHAT ETHICS FOR AN ECOLOGICAL AGRICULTURE?

From the agricultural world, the debate focuses on the conditions needed to develop organic farming. This requires changing the production patterns with an ecological approach that focuses on organic fertilization of the soil, optimizing the use of water, as well as respecting and protecting biodiversity.
But this new agriculture must also take economic issues into account – the cost of farm inputs and transport, promotion of local resources, etc.
This approach should also provide social benefits: production of quality food, guarantee good health, food autonomy for individuals and stabilization of populations on their land, re-valorisation of the role of farmers in society along with the creation and strengthening of social ties.

Pierre Rabhi, in his book "L'Agroécologie, une éthique de vie" ("Agro-ecology, an Ethic of Life", Editions Actes Sud) states that: "Aiming for a harmonious relationship between humans and nature, agro-ecology is both an ethic of life and an agricultural practice. It is much more than just an agricultural alternative. It is related to a deep dimension of respect for life and makes human beings responsible for the Living."

According to experts, it is not only about taking care of the ground, plants, animals or human beings, but also to consider all the elements of the ecosystem and social systems as well as to ensure the quality of their interrelations.

In France, although organically cultivated land still represents less than 5% of the total agricultural land, the organic market sales have increased by over 10% in 2015 as compared to 2014, according to Agence Bio. In view of this change in scale of organic farming, the FNAB (National Federation of Organic Agriculture) revised its charter, which aims to avoid a "discount bio". The charter is seen as an "agricultural social contract" to be read by the mass distribution, the governments and the citizens.

A two-speed organic farming seems to indeed be developing, as noted by Brooks Wallin, a member of the Natexbio professionals union: "On the one hand, the organic raw materials with French origins and concern for biodegradable packaging. On the other, the commercial bio where price dominates and where the materials origins are less important. And the latter is advancing at great speed on the global scale."
Jean-Francois Julliard, Greenpeace France Executive Director: "Mass distribution boasts the growth of its organic ranges, but… organic farming is not only specifications. It also about values and a different system that puts the human being at the centre of everything".

ARE WE SWITCHING TO A CITY-COUNTRYSIDE HYBRIDITY?

From the global urban development perspective, urban and peri-urban agriculture is one of the solutions proposed and recommended by the UN, for example to deal with food security needs and with urbanization and suburbanization challenges, especially in cities from so-called poorer countries. Approximately 700 million urban dwellers (i.e. one in four people in the World) are already using urban and suburban agriculture.
Should this trend continue, by 2030, nearly all of the population growth will be taking place in cities –especially in emerging countries – and 60% of the inhabitants of these countries will be urban. In this context, the benefits of urban agriculture are obvious.
Urban and proximity agriculture allows "short cycle" loops, reduced costs, CO2 emissions and the eliminates the need for energy and fossil fuels. It promotes the rapid recycling of specific organic wastes while limiting and monitoring the risks of contamination.
But it is also a tool to protect the land against the urbanization front and keeping "green cuts" in the city, favouring the presence of nature within the city. It is a meeting point between the city and countryside, rural and urban, creating a new culture for inhabited areas.

WHICH SCALES FOR URBAN AGRICULTURE TO CREATE CITY-NATURE RELATIONSHIPS?

Beyond these global challenges, it is necessary to distinguish various aspects of this convergence between city and agriculture that are connected to different agricultural production scales, in relation to the contexts between rural and urban. From the ongoing experiments to develop urban agriculture, we can identify four different scales:

- The XL-scale, to articulate global and local agricultural logics;
- The L-scale, for the regeneration of obsolete agricultural areas that are currently undergoing urban development;
- The M-scale, for hybrid urban-agricultural edges;
- The S-scale, for very urban, micro-productions.

These four scales can be illustrated by four emblematic examples.

If the whole farm sector should comply with environmental regulations, could we imagine intensive agricultural areas being partly converted to organic farming?
The Saclay plateau is a good illustration. Today, this rich agricultural region at the South of Paris is specialized in intensive farming of cereals, which are exported worldwide. In order to implement an urban project for a new cluster amid these farms, the team – combining landscaper Michel Desvignes and XGDA (Xavier De Geyter) architectural office – strongly negotiated with agricultural leaders to gain access to approximately 150 ha. of agricultural land.
In return, the new city campus offers a large local market with school canteens and university restaurants that commit to cooking organically and promoting market gardening production. Some large neighbouring farms, while still primarily engaged in intensive agriculture for international export, now spend up to 20% of their fields for market gardening production, supported by the short supply chain connected to this new local consumption.
Suburban development mainly appears on agricultural land, yet in some cases some obsolete agricultural areas can be reactivated through a total change of production. Leading to the concept of "agriparc".

Figure 31 | XL-Scale, between Global and Local.Agricultural Plateau and Urban Campus, Saclay (FR)

Figure 32 | XL-Scale, between Global and Local. Agricultural Plateau and Urban Campus, Saclay (FR)

Figure 33 | M-Scale, the Edges. E12 Milano Porto di Mare, "Transition Landscape". Europan 12 competition, Guillaume Chatelain, Cécilia Robergeaud, Cyrille Lamouche

Figure 34 | S-Scale, the Local Brooklyn Grange Farms

It can be defined as an inherently multifunctional space, which must balance urban and agricultural functions. The production function as an economic and human activity is linked to the consumption function to provide citizens with quality local food products also thanks to short supply chains – markets, baskets, kitchen gardens– and through collective catering. The revitalized environmental function of agricultural land is a heritage and landscape value that contributes to biodiversity.
In this way, the Montpellier's Territorial Coherence Program –SCOT– determines clear and sustainable limits to urbanization. It allows for the design of agricultural areas in proximity to the city which, in return, also provide short supply chains. A former farm managed by the City was restructured: one part is now used as a dense built limit and another was upgraded to become a local production area involving local citizens.
The combination of agricultural and urban builds on the concept of the "agriparc". This approach limits urbanization values the city-countryside relationship, the views on the great landscape and access to nature. The aim of this eco-project is to fully take on its role as a multifunctional space.

In the outskirts of the agglomeration, the best lands are often close to an increasingly precarious population that was rejected from the centre due to rising housing costs and the metropolitan job market. Those spaces must be converted to the service of the young and the new incomers – the "agglomeration necklace " serves as a transition zone between the city and countryside.
Located on the border of a consolidated urban fabric, the "Porto di Mare" area is part of Milan's green belt; a part is still being agriculturally exploited. It is currently located at the convergence of several transport infrastructures: Milan's Linate airport and the Rogoredo underground station provide easy access. Porto di Mare could become a new centre if we take its natural assets into account in its future development. The goal is to consolidate the area specificities to give it its own identity. The site elements to keep include: residential areas, sports equipment as well as agricultural parcels, typical farms and a large park.
The open lands structure the project. One of the three different zones resulting from the physical limits of the site is located between the agricultural landscape and the park. It creates a landscaped connection to meet the requirements of the green belt and achieve sight lines.
In dense urban fabric, where land is scarce and expensive, the challenge is to successfully implement agriculture on the artificial soil of building roofs.
A pioneer in this approach, the American Brooklyn Grange Association created two rooftop farms totalling 2,500 sqm that produce about 22.5 tons of organic food per year. Additionally, they support honey production with 30 beehives that are naturally managed, all on rooftops across New York.
One of the farms is located on the top of Building 3, in the historic part of the Brooklyn arsenal. The roof offers 6,500 sqm of cultures on the 12th floor of the building. 3.5 million litres of rainwater are recycled for crops, which reduces the cost of watering and the amount of sewage overflowing into the city's open waterways.

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URBAN FARMING IN LEFTOVERS SPACES: LANDSCAPE DESIGN PROPOSALS FOR VIA CALCHI TAEGGI AND PIAZZA D'ARMI

Silvia Lista, Arlinda Sheqiri, Gloria Carolina Zapata

RESILIENT VOIDS: THE WEAK FORM BETWEEN CONFLICT AND THE UNEXPECTED

«Resilience is a «positive ability of a system to cope with change » change being a notion that in our subject includes catastrophes and alterations created by top-down planning. Resilience is also the character of that which allows the survival of complex self-sustaining systems. Life is such a system. A positive ability, in this sense, is to be understood as positive for the system itself: it adapts to its advantage, 'coping' with external forces without being subjected to them, using available knowledge and skills in new innovative and creative ways.»[1]

Since our investigation starts from more general questions about the role of nature and agriculture in an urban context, we are willing to submit briefly the output of our reflection on the theme of landscape urbanism.
According to Paola Viganò, the introduction of the concept of "landscape urbanism" has enlightened two major issues. The first concerns the ability of the project to detect the condition of decline and the absence of positive social dynamics within an urban area. This social impoverishment is responsible for compromising the possibility of urban development to rely on deeper processes other than solely the growth of land value and prevent a virtuous circle of slow, small-scale economic transformations. The second theme concerns the importance of voids in the urban landscape, whose presence is essential to reshaping new habitats and lifestyles. In other words, voids offer openings and opportunity for things to happen and develop differently: "public space and landscape meet and act, each other as a true social infrastructures".

Figure 35 | Urban leftovers in southwestern Milan. Source: the authors

Sharing this belief, we questioned the vocation of void spaces within the city, especially regarding agriculture and farming. History of urban development in Europe shows how these activities have been for a long time a prerogative of rural regions whose processes, dynamics and perspectives were considered a stranger to urban development. The categories of the rural and the urban have always been clearly distinct and even opposed to one another, so far. However, more recently, awareness of the urgency for an ecological oriented and sustainable development of cities has launched a debate around the potential of urban farming and food production in an urban context. Wondering if and how agriculture can become a real productive activity within the city, and to which extents in can be economically valuable, we started to question the average size of urban empty sites which could be remediated for their productive potential, promoting economically sustainable productive activities adapted to the reduced space availability in urban context. All practices associated with urban farming are claimed to promote sustainable development, reduced the carbon footprint, and other benefits including enhanced biodiversity and ecological sustainability. However, urban farming can also be associated with more controversial aspects, since agriculture, as any other specialized activity based on landownership and private economic exploitation, can actually produce segregation. That's why we strongly believe that urban farming should integrate public space and be supported by the constitution of a neighborhood identity.
But, what is the impact of agriculture on the shape of the city itself? How can agriculture mitigate speculation, appropriate voids and still produce a socially relevant space?
Early in the project, we explored the introduction of agriculture in the city; post-industrial contexts especially show the projective value of the first experiences of ecological urbanism. Projects such as Agronica by Andrea Branzi stands essentially as a critique of the social, cultural, and intellectual poverty of most of contemporary urban policies. According to Branzi's utopian projects, urbanism can find a new dimension through the "weak work" on voids and agriculture can become a means of configuring and experimenting on the territory. Agronica is a semi-urbanized agricultural park, which reconfigures a post-industrial scenario, transforming it into an agricultural park whose program it not fixed but adaptable to future scenarios.
Even infrastructure, which allows the park area to be easily crossed, traversed and connected, is designed with the maximum amount of flexibility. This model of weak organization relies on a vision of agriculture as a sophisticated, productive system able to evolve according to production cycles through reversible organization.
"The industrial agricultural civilization makes a horizontal landscape, without cathedrals, crossable and reversible: the turnover crops manages the agricultural landscape according to a temporary logic, fitting to the production balance of earth, to the flow of seasons and of the market. For all these reasons, contemporary architecture should start to look at modern agriculture as a reality with which to set new strategic relations. An architecture that renovates completely its reference patterns, facing the challenge of a weak and diffused modernity. Setting new relations with a culture that is not constructive in traditional terms, but productive in terms of territorial system, following bio-compatible logics and using very advance support technologies."[2]

Agriculture as a practice of resistance and preservation of voids leaving space to unanticipated and unpredicted development is equally present in other renowned projects of the last decades. OMA's famous proposal for Melun Senart in 1987 already predicted the strategic importance of preserving voids as "a guarantee for beauty, serenity, accessibility and urban services, regardless of architecture that has to come". More than ten years later, François Grether and Michel Desvignes' proposal for Saone and Rhone's confluence in Lyon (2001), defines a "strategy of infiltration" with the introduction of urban agriculture. A system of connected parks allows for a soft reorganization of the abandoned industrial land, leaving space to future transformations, envisioned over a 30-year period, making a multiple stage transformation possible. Whether or not utopias, these projects show the potential of preserving voids as a spaces for future opportunity.
However, the size of urban voids usually still appears to be insufficient if compared to the spatial extensions demanded for an effective functioning agricultural zone. That's why we believe that agriculture in the urban context; even if not able to provide a significant production and a true economic relevance, should overcome the mere goal of productivity. Despite its limited productive capacity, urban agriculture can still foster local-scale economies and also trigger new forms of social interac-

tion through re-activation of resources and local practices as well as a reduction of public commitment and mitigation of real-estate speculation concerning urban voids. The study cases of Parco delle Cave and BoscoinCittà show us that a local association can actually work and reinforce the social involvement of the residents in the process of requalification of leftover areas. Similarly, urban agriculture can be sustained by a system of cheap rent, addressed to private citizens as well as to small enterprises willing to get involved in maintenance and production at the hyper-local scale of the neighborhood, providing both a subsistence economy for disadvantaged families, as well as social activities.

RURALITY IS TAKING CARE

"Rurality is a way of living, an ethical, social attitude searching its roots in nature. It is about 'appropriate', about 'quality' and 'characteristic'. It deals with fertility, maieutics, criticality, resilience, subsistence and sustainability."[3]

Taking care of the land can thus help to reduce public investment for maintenance of large leftover areas. Besides all economic and territorial planning issues, which is the role of landscape urbanism and what are the benefits of reintroducing rurality in the city?
Going back to the origin and learning to "take care" of the land is, in contemporary cities, a socially valuable issue. We propose urban agriculture as a means to generate new ways of living and activating social bonds through land care. This would improve, at the same time, the quality of the urban landscape. Urban agriculture and landscaping can actually bring back a set of values, which, despite being still very present in rural societies, are almost forgotten in urban ones. This form of oblivion of rurality's values is at the origin of what is, almost universally, recognised as a physiological and psychological alteration of life cycle, observed in highly urbanized contexts. Great cities are proving to be highly stressful environments, which need to be appeased by the presence of nature. Urbanized nature, like an urban park and public green fields and playgrounds, is still an important part to safeguard in urban policies. However, we believe in the possibility of a more radical graft of nature and rural values in urban life. Urban farming can help to reintroduce the value of caring and restoring people's contact with the cycles of nature. This practice could eventually lead to a deep regeneration of impoverished milieus through social engagement and land caring, appeasing the sense of detachment from nature experienced in urban communities' life.
«Abundant research work in urban studies shows that the urban as the human living environment is not devoid of deeply rooted problems. For many urban dwellers, living in a city means living in the faubourgs, suburbs, urban sprawls and ex-urban outskirts, while their representation and desire of the urban remains that of the – historic - city centers. These are where they go for shopping, leisure, to the theatre. For a tourist, New York means lower Manhattan (a tenth of its population); to go to work, a Parisian inhabitant may very well travel hours daily from one outskirt to another, in crowded and dark subways – walking kilometers in subterranean corridors. Urban development has lead to social segregation, poverty, pollution, several forms of dependence (to strenuous mobility, abstract social aid, consumerist behavior...), Stress, reclusion, crime and so on. The urban, by privileging and nurturing social contracts, has replaced our contracts with nature.»

Farming can also assume a pedagogic value by providing necessary know-hows and teaching people how to keep a responsible behaviour. Benefits will be valuable, especially in urban contexts characterized by social troubles and/or poor life conditions. Taking care of the land, together or individually, is a fundamental form of social interaction to be restored at the scale of the neighborhood and even within the core of familial structure.
Our second matter of concern is the possible coexistence between urban agriculture and public space, which also seems to be quite controversial. In fact, agricultural landscape, with its private property structure made of fenced agricultural fields, would seem to be the exact opposite of what we would recognise as the public realm. Agricultural fields, traditionally, are strictly fenced off as land ownership is the most ancestral way of appropriating territory and agriculture the primordial form of profitable exploitation of land. Thus, a veritable coexistence between agriculture and public space seems to be impossible so far. However, we think that this prejudice can be overcome and reversed to generate new contemporary forms of urban/public agricultural land appropriation.

In this process, associative forms of social collaboration are proven to be capable to manage a structure of land renting and temporary exploitation by local partnerships. Once the public and human connection is set, spatial practices can follow and public spaces of socialization can match with agricultural activities in designated sites. Many solutions can be explored and we have tried to suggest a few in the following exercises on the proposed sites, both located close to one another, in the southwest of Milan. These huge urban voids, respectively known as Piazza d'Armi and Calchi Taeggi, are amongst the largest leftover areas still available in the city's core.
The main goal of preserving voids is to foster the creation of a continuous system of green areas. Therefore, the main objective of our proposal has been rethinking the two proposed areas of Forze Armate and Calchi Taeggi in continuity with the existing parks, to suggest the creation of an important " green corridor " in the southwest of the city. Such an operation is meant to physically pursue a spatial switch between the city and the countryside and vice versa. Moreover, we believe that restoring an agricultural vocation would be a cultural act, an opportunity for the city of Milan to go back to its rural roots and forgotten identity.

FORZE ARMATE, THE URBAN GARDEN: A SYMBOLIC PLACE TO REBUILD SOCIAL LINKS AND CULTURAL HERITAGE

"Kaplan and Talbot describe coherence as "encompassing the imagined as well as the seen. It requires that there is more than meets the eye . . . a continuation of the 'world' beyond what is immediately perceived." Here coherence involves a sense of being "in a whole other world". Even a small park can achieve such a state. For some gardeners, the garden constitutes 'another world', a place far removed from the pressures and problems of the day."[4]

The Forze Armate area is a military leftover. Located next to the military district of Baggio, of which it is indeed an extension, the Piazza d'Armi area has been used for a long time as the place for exercises by the military troops based in the nearby barracks, " Perrucchetti ". Just in front of the area, outside its fenced perimeter, is the military hospital of Baggio and other military stores, most of them lodged in historical buildings dating back to the beginning of the XX century and actually classed as heritage buildings. The Piazza d'Armi area is a very special place. It stands among the most extensive green area of Milan, whose size measures 600 thousand square meters, one and a half times Sempione Park. Unfortunately, the whole extension has been fenced for decades and it's still inaccessible to the public.
In the late '20s, the area was, for the first time, destined to host military functions. Before this time the Piazza d'Armi was located in the area of the City Fair (Fiera Milano City) and, only after the 1 st World War, it was moved to the neighborhood of Baggio. All military equipment, including the Perrucchetti barracks, the Military Hospital and the entire training department for military exercise, were built in the following years. They remained in use until the 80s when, following the suppression of conscription in Italian law, the majority of such vast military complexes fell into disuse, becoming neglected and abandoned. Today, after more than twenty years, the site is still inaccessible to the public, and nature has taken its toll, as the rare images of the inside show us: an impressive landscape, even more extraordinary if we consider the proximity of the urban context. The same combination of natural, almost wild nature, and urban space can be found, in a fully accomplished form in Parco delle Cave and Bosco in Città situated in continuity with the Forze Armate area.
The proposal for Piazza d'Armi, is closer to a classic landscape operation and is mostly focused on the prevention of estate speculation by the creation of an urban park in continuity with the adjacent Parco delle Cave. Unsuitable for extensive production, the area is more likely to become a garden, a typical figure in an urban landscape, which allows the reconciliation of public life with nature.
Even in its original form of a fenced perimeter, the Piazza d'Armi evokes the symbolism and narrative of the enclosed garden.
Farming has been introduced in the form of family orchards of edible trees that align with other public space activities and the rehabilitation of existing buildings. The latter is intended to host workshops and educational activities about teaching rural practices. More specifically, this proposal is divided into two parts, the public park and the urban farm education facilities.
The public park seems more suited for this area that is surrounded by a fully urbanized residential

area equipped with a significant amount of services from public transports to school and associative spaces for elderly, but still lacking green spaces. The creation of a vast public park with cycling promenades around the area provides more connection and public life to the neighborhood.
Farming is introduced in the park by planting edible trees whose caring can be taken by neighbors and products made available for everyone.
This would contribute to establishing a conscience of taking care of nature and food quality. Public space still remains the main feature of the park, which envisages different areas, equipped with seats, picnic tables and playgrounds, zones for sports such as skating and a meeting place for small public meetings. The program is intended to suit the needs of different users' profile from children to the elderly. Besides the park, we envision the restoration of the disused barracks as an urban farming education facility where the community would profit from greenhouses and a small animal farm.
The farming facilities are also a place for education for children to provide knowledge of farming and recreating the lost contact with nature.

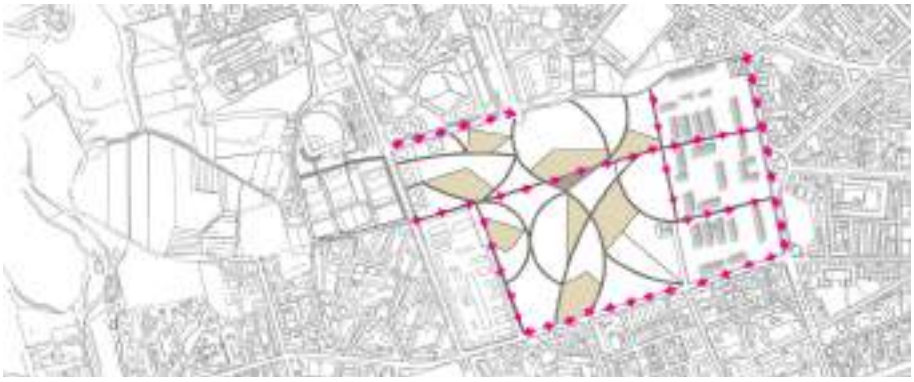

Figure 36 | Landscape and main connection for Piazza d'Armi (above and under). Source: the authors

Figure 37 | Public and cycle connections. Source: the authors

PARCO PARRI: A NEIGHBORHOOD URBAN FARM AND AS A PROJECTIVE OPEN VISION

The site of Calchi Taeggi sits on a disused quarry, Cava Geregnano, whose extracting activities were interrupted during the Sixties. In the following twenty years and till the end of the Eighties, the replenishment of the quarry transformed the site into a landfill for inert materials.
Later, at the end of the Nineties, the first plans for urbanizing the area were launched. All the proposals show a mixed use area with nearly one half of the surface treated as a public park and the other half occupied by medium to high density buildings, mainly located close to the borders and to the main axe connecting Bisceglie to the adjacent Giambellino neighbourhood. The project was never achieved due to seizure of the site, charged with the omission of proper soil remediation measures. The area remains, at the present time, a leftover space, adjacent to the parking areas of

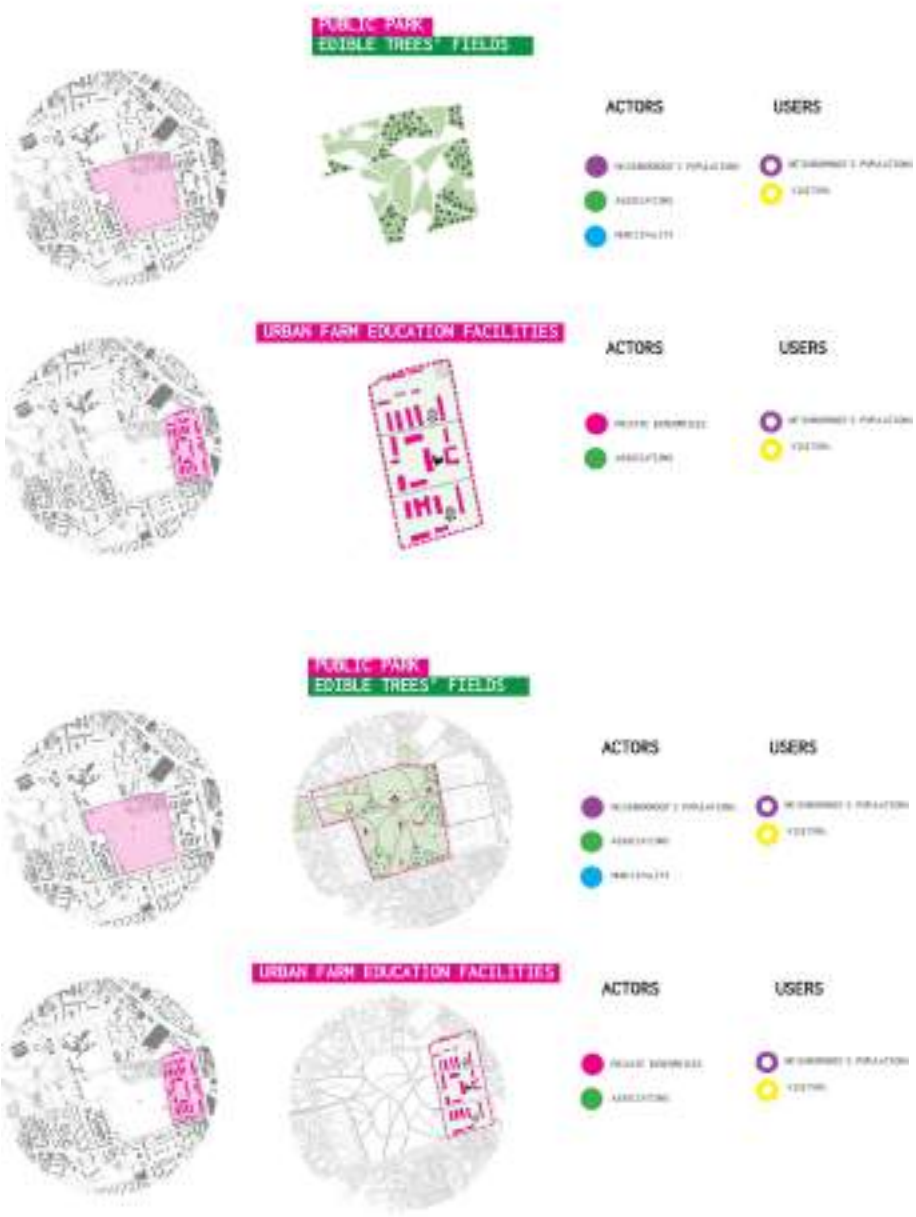

Figure 38 | Landscape design for the Piazza d'Armi – program: actors and users. Source: the authors

Bisceglie, also the terminal of the MM1 metro line. As the previous case of Piazza d'Armi, this huge area has been neglected and turned into a wasteland, fenced and abandoned, after having been for a long time the center of polemics about the legitimacy of intervention of any kind due to suspected severe pollution.
Our proposal for the Calchi Taeggi it's an experiment about the possibility of introducing agriculture in the core of a problematic neighborhood. The proposed scenario stresses social integration, the pedagogic role of urban agriculture and the establishment of micro economies within a short production-distribution circle at the hyper-local scale. Regarding the program, we propose many different activities. We started by a division of the available land into small to medium size agricultural fields, whose dimension is estimated according to Lombardy's traditional field typologies. The fields will be mainly rented and exploited by private enterprises. Beside larger agricultural fields, some smaller parcels have been designed to be neighborhood gardens, cultivated by individuals and local associations. Thinking about the whole operation as a short circuit from production to distribution, we thought about introducing places for selling products. Thus, a food market could partly replace the present parking lot. We noted the nearby presence of a youth jail, a very secured and segregated function that doesn't help the development of the surroundings. Nevertheless, we thought about the possibility of taking advantage of the educational role of agriculture and taking care of the land through farming activities that could help these youths be reinstated to society. We also found some possibilities in the rehabilitation of existing facilities, old cascinas nearby, in which we propose the installation of a food-lab with a culinary school, restaurant and grocery shops and warehouses transforming and selling local agricultural products. Another cascina, situated on the border of the area, could be exploited by a private enterprise and transformed into a new kind of hotel facility: a gardening hostel where visitors can be involved in gardening and farming, launching a different concept of ecologic tourism in the city.

CONCLUSION AND LIMITS OF THE PROPOSED

"The same kind of banal thinking which in literature produces nothing worse than incoherent bo-oks and tedious plays can, when applied to architecture, leave wounds which will be visible from outer space. Bad architecture is a frozen mistake writ large. But it is only a mistake, and despite the impressive amounts of scaffolding, concrete, noise, money and bluster which tend to accompany its appearance, it is no more deserving of our deference than a blunder in any other area of life. We should be intimidated by architectural mediocrity as we are by unjust laws or nonsensical

Figure 39 | Landscape design for the Parco Parri – public connections. Source: the authors

arguments. We should recover a sense of malleability behind what is built. There is no predetermined script guiding the direction of bulldozers or cranes. While mourning the number of missed opportunities, we have no reason to abandon a belief in the ever-present possibility of moulding circumstances for the better."[5] Both our proposals, quickly developed during the workshop, are still very uncertain and would require a deeper social, economic and ecological survey. For this reason, we suggest not reading them as a finalized design project, but as hypothetical, even utopic, scenarios about the possible effects of using urban voids as a space for the possibility and opportunity to bring back rural life and value to oblivious and socially uneasy urban contexts. We have chosen to develop a program and a design for these areas to suggest a new scenario, one which could help to revitalize enclaves, provide a sufficient mix of functions, making these sites finally appealing for new actors and users. New forms of associations along with public and semi-private exploitation of these sites would help to achieve a better social integration and a better synergy between natural and artificial environments, balancing public investment. To us, preserving urban voids can be seen as a strategy and a transitional device to help orient future development in a more ecologic and sustainable direction, ultimately promoting a shift towards slow transformations of this part of the city in green and agricultural neighbourhoods. Even when voids won't be able to resist the pressure of urbanization, a renewed awareness of the benefits of the contact with nature and caring for the land could be crucial in rethinking new kinds of urban settlements.

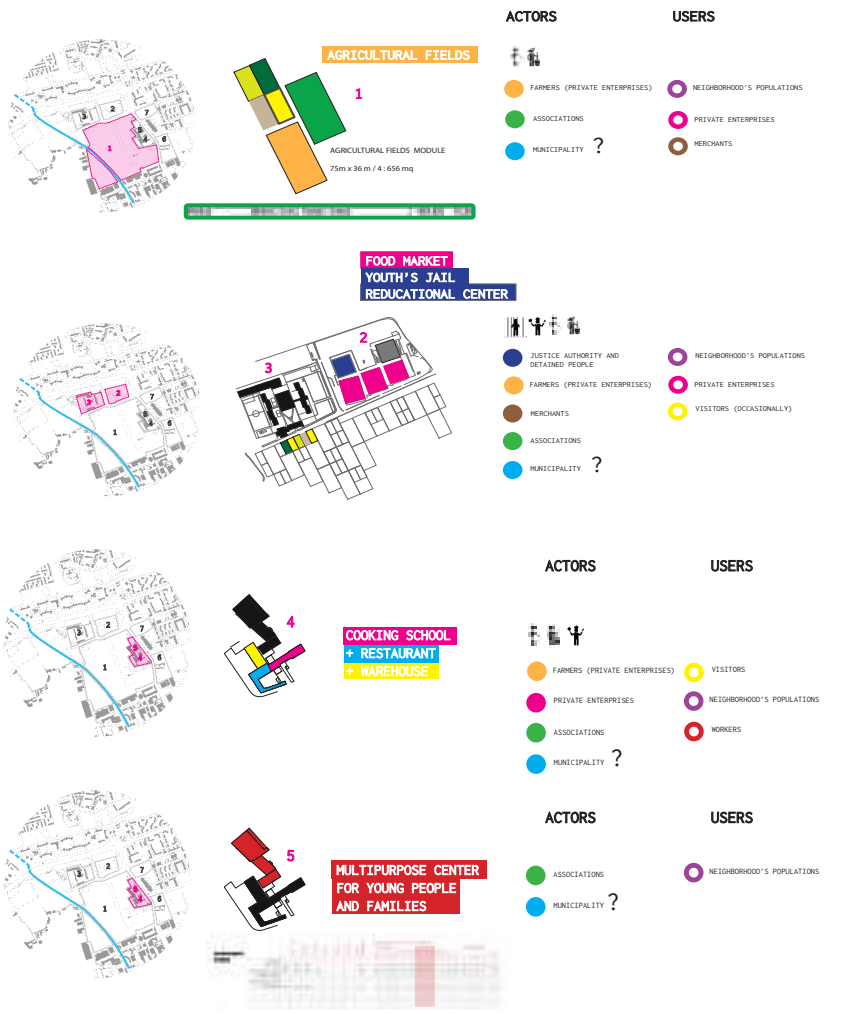

Figure 40 | Landscape design for the Parco Parri – program: actors and users. Source: the authors

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NOTES

1 See Viganò P. (2013), pag. 83.

2 Andrea Branzi, "Weak and Spread," public lecture at Berlage Institute, Rotterdam, The Netherlands, 2003.

3 Pieter Versteegh , Afr2013f dwell studio, ALTER- RURALITY, ARENA (Architectural Research European Network Association) alter-rurality network, 2013 http://www.jointmaster.ch/file.cfm/document/afr2013f_dwell.pdf?contentid=2209.

4 See Kaplan R. (1984), pag. 193.

5 See de Botton A. (2006), pp.254-55.

REIMAGINING PERIURBAN AND MARGINAL LANDSCAPES: A NEW ROLE OF AGRICULTURE IN URBAN PLANNING AND DESIGN

Rositsa T. Ilieva

INTRODUCTION

Farmland is a finite resource and an essential means to preserving the integrity of human and ecological health. Yet, since the second half of the twentieth century, patterns of diffused urbanization, particularly through suburban and exurban development, teared extensive tracts of agricultural land apart, producing a disconnected mosaic of periurban spaces with no clear identity or vocation and typically inadequate for modern farming. In addition, in many western countries, the spread of metropolitan areas was accompanied by an equally influential 'shrinking' of old urban centers due to deindustrialization and other socioeconomic factors. This phenomenon led to the extensive production of vacant lots and abandoned buildings and the stabilization of a whole new system of marginal urban landscapes having detrimental effects on the social and ecological wellbeing of urban communities. While economically burdened cities like Detroit, Michigan tend to be commonly portrayed as the posterchild for this transition, many other cities, both in the US and Europe display similar traits. This twofold heritage of periurban and inner-city marginal landscapes has, for several decades now, posed considerable challenges to the planning and design for sustainable urban development. Part of the reason why such challenges have persisted is the dominant perception and framing of residual or abandoned urban spaces as unsustainable and problematic, rather than untapped resources and repositories of potential solutions.

The value of productive landscapes as a means to a more balanced, fuller, and healthier urban life has been at the center of scholarly attention since the very inception of urban planning as a field of professional practice. In fact, the need to plan for the meaningful integration of food growing spaces at multiple scales in urban development was part of the very arguments for the legitimation of the field. It is enough to recall the bold visions for metropolitan decentralization of Ebenezer Howard from the beginning of the past century and the subsequent garden cities and regional planning movements which took shape in the UK and North America. The emblematic Randstad/Green Heart principle of spatial organization put forward by Dutch national planners in the second half of the twentieth century is yet another example of the deep-seated appreciation of pioneer planners of the benefits of safeguarding a healthy relationship between open space and urbanized areas. As it happens, most of these pioneer ideas, germs for innovation in the early days of urban planning, ended up either being misinterpreted or simply disregarded as obsolete; especially in the face of the rising agri-food industry and the perception of direct sales and food growing practices as everything

but a sign of modernity and socioeconomic progress in cities.
Over the past two decades, however, with mounting concerns about sustainable urban development and the growing momentum of the local food movement in developed nations, some of the arguments for a third way of seeing and designing for cities, as loci where food consumption and production can beneficially coalesce, has started resurfacing (Cohen, 2011; de la Salle & Holland, 2010; Ilieva, 2016; Viljoen & Wiskerke, 2012; Vitiello & Brinkley, 2014). Importantly, the recent turn to agriculture in architecture, city and regional planning, and urban design disciplines is not so much about creating self-sufficient cities, but harnessing the myriad of non-food related benefits of productive landscapes for urban development. By pointing out urban agriculture's potential contributions to social equity, public health, biodiversity, and sustainable organic waste management in cities, scholars and policymakers are increasingly making the case for community food systems as a means to urban regeneration and a meaningful criterion that can help better guide urban expansion. Some of the globally emergent conceptual frameworks are agricultural urbanism in Canada (Mullinix et al., 2008), agrarian urbanism in the US (Duany & DPZ, 2012), food systems planning in North America (APA, 2007; Born, Glosser, Kaufman, Olinger, & Pothukuchi, 2005), urban or sustainable food planning in Western Europe (Morgan, 2009; Viljoen & Wiskerke, 2012), agriurbanisme in France (Vidal, 2014), food urbanism in Switzerland (Verzone, 2012), and food-sensitive planning and urban design in Australia (Donovan, Larsen, & McWhinnie, 2011).

This emergent scholarly and political sensitivity toward sustainable urban food systems has thus led to the gradual reevaluation of the geography of periurban and marginal urban landscapes and their role in bringing about healthier and more ecologically sound metropolitan regions. The traditional compartmentalization of urban and rural planning is now being challenged through new images emphasizing the continuity of the urban-rural realm and the great diversity of intermediate spaces which comprise it. This chapter is about emerging attempts to recognize such intermediate spaces on which it is possible to hinge whole new ecological and public health infrastructures. The focus is intendedly on designer-driven proposals, not to disregard the multiplicity of community-driven innovations, but to shed light on the emerging roles that architects, planners, and urban designers in particular are beginning to play in normalizing the transformation of marginal into productive landscapes through their research and practice.

Three broad domains of planning and design practices are explored in the chapter. Section 2 introduces novel design strategies for reactivating marginal and interstitial metropolitan landscapes from single plots of open spaces to entire city-regions. Section 3 turns to projects seeking to reconnect emerging and fragmented historical foodscapes such as patches of community gardens in the city or rural heritage sites at the city fringe. One progressive idea for the radical redefinition of the rules by which cities grow, to change the nature and role of periurban spaces in everyday urban life, is then reviewed in Section 4. Finally, the chapter closes with an overview of some of the key insights for researchers and practitioners emerged from the exploration and points at major questions in need of further investigation.

REACTIVATING MARGINAL AND INTERSTITIAL METROPOLITAN LANDSCAPES

Marginal landscapes often result either from inner-city abandonment and decline or diffused urbanization at the metropolitan scale. The mosaic of heterogeneous patches of urban and rural lands, in which these residual and ambiguous landscapes are enclosed, has for long been deemed as evidence of the flaws of spatial planning. Negative metaphors such as 'grease spots', 'sprawl', and 'metastasis', have turned into a commonplace in planning jargon. Yet, while somewhat successful in conveying a sense of urgency and the need to rethink how cities grow, these frames have overwhelmingly obscured the regenerative potential that seemingly inconsequential landscapes have. Some landscape theorists, like Gilles Clement (2006), have called attention to the need recognize the distinct role and identity of these overlooked open spaces, which he broadly summarizes under the rubric 'third landscapes', and their promise for developing a new 'planetary garden' (Boeri, 2010). Over the past decade, a growing group of scholars and practitioners in the fields of landscape architecture, planning, and urban design have started probing this proposition through concrete proposals for the transitioning of marginal and residual landscapes to productive parts of the physical

and social fabric of cities and metropolitan regions. This section briefly illustrates three examples of this emergent proactive attitude: the project Farmadelphia by New York City based architects form Front Studio, the global initiative Edible Estates by US landscape architect Fritz Haeg, and Agropolitana, a research project by Venetian architect and scholar Viviana Ferrario.

The challenges of Philadelphia's postindustrial heritage may be nothing compared to other US cities like Detroit (Coppola, 2012), but the city is now dubbed a 'shrinking city' and faced with the management of over 31,000 vacant plots and about 54,000 abandoned structures (Bowman & Pagano, 2004: 181). To approach this challenge, in 2005, the City Parks Association of Philadelphia launched a competition for ideas called Urban Voids: Grounds for Change, having the aim to show how «the ecology of a place can again be a force that can shape urban form» (Loeb, 2008: 69). Front Studio decided to approach the theme of the competition through the lens of urban agriculture and productive city landscapes. Thus, their research and field work in Philadelphia led to the idea of Farmadelphia – a vision and a planning strategy to transition shrinking Philadelphia to a vibrant, productive city. Vacant city blocks are returned to farmland with a variety of uses from pasture to extensive agriculture, orchards, and wind farms, while abandoned buildings are retrofitted as supportive farming facilities (e.g., silos, barns, greenhouses). Public gardens are created by merging contiguous vacant parcels, which, in instances of more than four contiguous properties, can be used for small farm animals' husbandry. Limited traffic streets, bounded by vacant city blocks, are re-envisioned as linear farming spaces, ensuring the continuity of farmscapes and ecological systems throughout the new productive tracts of the city.

Unsustainable landscapes can, however, result not only from urban blight and abandonment but also from the normalization of urbanization models conceived to cater for the needs of upper and middle-class urbanites. In North America and other western nations, the processes of extensive suburbanization, which unfolded after World War II, generated a vast system of manicured landscapes and front lawns, consuming conspicuous amounts of fresh water and deterring biodiversity. The single-function, repetitive patterns of suburban development have moreover perpetuated lifestyles and everyday practices revolving entirely around the car even for simple routines like purchasing groceries. This has led to multiple environmental and public health crises. Fritz Haeg, a US architect, artist, and radical gardener, set on to address these challenges by design and raised the question of whether front lawns, and the unsustainable practices they propel, can be transformed into ecologically sound productive spaces, promoting public health, while still being of high aesthetical quality (Allen & Haeg, 2010). To test his idea, Haeg launched the experimental project called Edible Estates, offering private homeowners the opportunity to redesign their front yards into productive vegetable gardens (Figure 1). Since 2005, Haeg has successfully realized over fourteen different projects – from Salina, Kansas to Maplewood, New Jersey in the US and London, Rome, Istanbul, and Tel Aviv worldwide. As we will see in section four, Edible Estates is part of a growing sentiment among agriculture-minded urbanists and designers that even low-density urban development can play an important role in transitioning inefficient open spaces to sustainability.

Ambiguous intermediate landscapes, originating from processes of urban dispersal and poor coordination of metropolitan growth, pose no little challenge to planning for environmentally sound forms of urban dwelling as well. Yet, much like vacant lots and front lawns, they also have long been

Figure 41 | Edible Estates Project #15 in Woodbury, Minnesota (2013). Source: Fritz Haeg, Photo by Olga Ivanova.

neglected either for their unclear vocation or simply because of misclassification in land use plans and urban policies. Perhaps most important, few have looked at these marginal landscapes as a metropolitan system in its own right and an underused infrastructure for sustainable urban development. In 2009, the Veneto Regional Spatial Plan, adopted by the local administration of the Veneto Region in Italy, set a precedent by introducing a new classification of metropolitan landscapes termed 'agropolitan'. That is, landscapes that manifest both urban and rural characteristics.

Drawing on this institutional innovation, Viviana Ferrario, a Venice-based architect and urban planning scholar at the Venice Architecture University Institute (IUAV), developed a research agenda to challenge possible generalizations and illustrate the great diversity of agropolitan landscape typologies present in the region. The project titled Agropolitana revealed a taxonomy of four distinct types of agropolitan spaces: low-density urbanization with simplified rural landscapes (e.g., monocrop cultivation), low-density urbanization with complex rural landscapes (e.g., multi-functional agriculture enterprises), linear agrourban filaments, and intense urbanization. Based on these findings, Ferrario advanced the proposition that these agropolitan landscapes can offer new opportunities for the meaningful use of intermediate spaces and resources in the region. To do so, she called attention to five 'extreme' competing scenarios envisioning their use entirely for food production, energy production, ecological restoration, flood protection, or public parks and leisure (Ferrario, 2011a, 2011b). The scenarios effectively call attention the often overlooked issue of planning and design for marginal landscapes as a matter of recognizing and managing tradeoffs between competing sustainability-oriented uses.

RELINKING NEWLY-EMERGING AND HISTORICAL FOODSCAPES

While there is nothing inherently good in new connections per se, greater social and ecological connectedness is an essential precondition for collaboration, knowledge-exchange, and resiliency. Inquiring the potential for new socioecological connections can moreover help highlight the geographies of interstitial and marginal landscapes and help reconsider their role in the life of contemporary urban regions. Now that cities are casting again their sight on the regional foodsheds that bound them, new physical and socioeconomic connection can also play key role in helping periurban and regional farmers stay in business. This section looks at original proposals for the representation and design of new agri-urban webs that can elevate marginal landscapes to the status of major metropolitan infrastructures able to enhance ecosystems, public health, and economic prosperity in and around cities.

One of the challenges in planning for the re-naturing of metropolitan regions to achieve sustainability goals stems from the scale of intervention. A reintroduction of natural and productive landscapes in the physical fabric of cities through small-scale projects, by for instance converting vacant urban land to vegetable or flower gardens, allows for greater civic engagement, community-based stewardship of the spaces, and the cultivation of a sense of belonging. On the other hand, larger scale afforestation projects, or the development of natural reserves, are interventions much more effective in providing ecosystem services like carbon sequestration and biodiversity through uninterrupted ecological corridors. Katrin Bohn and André Viljoen, British architects and scholars of urban agriculture and sustainable food planning, offer an original strategy to approach this design conundrum. Through their concept of Continuous Productive Urban Landscapes (CPULs), they suggest that it is still possible to conceive of landscape networks that are both proximate to the everyday life of urban dwellers and offer some of the benefits of large-scale ecologically relevant green infrastructures. In their view, a CPUL is a «coherent strategy for the introduction of interlinked productive landscapes into cities thereby creating a new sustainable urban infrastructure and supporting a redefinition of urban open space usages» (Bohn & Viljoen, 2010: 149). One concrete example of the application of the framework to a real-world situation is the concept map Opportunities for a Green and Edible Middlesbrough (Figure 2) which the two architects developed for the Designs of the Time 2007 (DOTT07) initiative in the town of Middlesbrough. The new CPUL topography Bohn and Viljoen envisioned links existing and potential productive landscapes throughout the city, including the three typologies of mobile food growing spaces – small, medium, and large gardening containers – introduced as part of the DOTT07 design initiative.

As we know from the European Landscape Convention signed in Florence in 2000, the notion of landscape encompasses not just places of exceptional beauty and unique vistas, but also ordinary landscapes falling out of the lists of protected sites and cultural heritage monuments. This specification is far from trivial, since it raises concerns about how 'minor' landscapes and historical buildings can still be preserved and effectively included in planning endeavors to avoid progressive degradation and decline. This is particularly pertinent for periurban rural landscapes and former agricultural infrastructures which no longer serve their original purpose. The project Cascine Expo 2015, ideated by researchers at the Multiplicity Lab of Politecnico di Milano and promoted by Centro Studi PIM (Piano Intercomunale Milanese), offers one innovative strategy to reconsider the role of former farming complexes, called 'cascine', in the Milan metropolitan area. After mapping the spatial distribution of Milan's cascine and developing a detailed description of the unique features that each complex possesses, researchers found that about 59 of the buildings are municipal property. Thus, not only did their location reveal where some of the most productive agricultural lands in the region used to be, but also that local government can play a strategic role in their revitalization and reconnection to the city.

Some of the new functions envisioned for the cascine located in inner-city areas are small-scale urban agriculture projects and the integration of artisan food restaurants and cafeterias, while cascine located in periurban areas are suggested as strategic multi-functional hubs offering a wide array of educational, leisure, tourism, and organic food procurement services to nearby urban dwellers. Successful examples of bottom-up renovation of urban and periurban cascine in the region already exist – from Cascina Cuccagna, to Cascina Santa Brera, and Cascina Darsena further south. An important question, however, is whether and to what extent their successes can be replicated and scaled up to reactivate the entire network of over a hundred cascine in the region. The initiative and

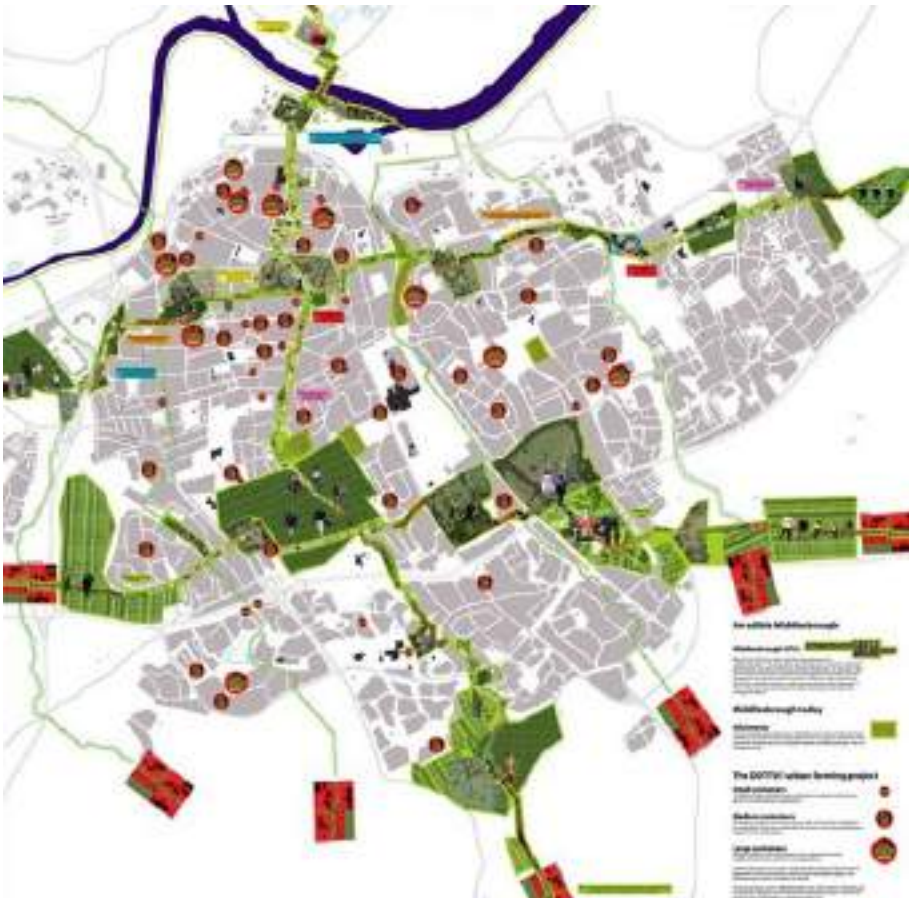

Figure 42 | Designs of the Time 2007 (DOTT07) initiative, Opportunities for a Green and Edible Middlesbrough. Source: Viljoen & Bohn, 2014. Bohn and Viljoen Architects.

creativity of designers and private entrepreneurs will be essential, but they will need the support of targeted public policies and government programs in this initial stage of implementation.

REDEFINING THE RULES OF URBAN GROWTH BREAKTHROUGHS IN AGRICULTURAL URBANISM

The unsustainability of low-density models of urban growth started being challenged already in the late 1980-90s when alternative urban development concepts, such as the 'urban village' in the UK and 'new urbanism' and 'smart growth' in the US, started surfacing. Compact, mixed-use, pedestrian-friendly communities were conceived as a necessary substitute of the dysfunctional patterns of dispersed, single-use, standardized, and car-dependent residential suburbs and exurbs inherited from the twentieth century. A recent offshoot of this movement within the urban planning profession is the framework of agricultural urbanism advanced by North American architects and urbanists to guide the purposeful integration of productive landscapes in the future development of cities. Differently from the new-urbanism tenet of compact growth, here the emphasis is on diversity of land uses and social practices and, to a lesser extent, on density in terms of compact built-up areas. This section introduces one emblematic case in which the design for new urban development has sought to radically redefine the way the urban-rural interface gets produced and its role as a ground for experimentation for sustainable development.

While instances of planned large-scale urban growth are relatively rare in developed economies countries, they do exist and offer unique windows of opportunity to remake the city. One recent case in point is the plan for the expansion of the city of Almere in the Amsterdam metropolitan area. Almere is a 'new town' inspired by the garden city model of Ebenezer Howard (1902) and implemented through top-down planning from the 1970s on. Though the initial idea was to obtain a balanced development between built-up and landscape areas, the accelerated pace of residential development left many of the open spaces, meant to be part of the green system of the city, unattended. In 2007 the Dutch government sanctioned that the city was well suited to serve as one of the urban centers where future population growth had to concentrate. About 60,000 new homes were planned to be developed by 2030 and part of the city was settled to expand in eastern direction. This suggested the urbanization of significant portions of high quality farmland and the displacement of farmers and businesses already operating in the area.

Faced with this zero-sum game scenario, in 2005, an energetic team of researchers from Wageningen University, a lead institution in the life sciences and agricultural research, set to develop an alternative scenario and demonstrate that a third way of urbanizing was possible. Their project, eloquently titled Agromere, laid out a set of agri-urban design principles through which multiple scales and forms of productive landscapes were weaved into the future development of the area as an urban amenity and a profitable business. Half of the food produce was to be directed for local con-

Figure 43 | Structural Vision Almere 2.0 developed in view of the strategic plan for the expansion of the city by 2030. Bottom right corner: the concept for the organic development of Almere Oosterwold (2009). Sorce: MVRDV.

sumption and half for export. Through the creation of an effective governance network around the project, including key stakeholders both from political and farming businesses circles, the Agromere team succeeded in influencing the then-in-progress structural vision for the future development of the city by 2030. The concept plan for the city's spatial organization, designed by the renowned Dutch architectural office MVRDV (Figure 3), fashioned the eastern extension of the city – Almere Oosterwold – with strong emphasis on agriculture. Nearly half of the overall area will be devoted to productive landscapes.

Importantly, the implementation of the plan presents a radical departure from top-down spatial planning practices, and will rely on an organic growth model whereby citizens are in charge of urban form and the construction of basic infrastructures. Some of the uncertainties of the model are the tension between self-organized development and the risk of creation of new marginalities as well as the acceptance of a non-finished end-state, which is part of the possible development scenarios. Regardless of these reservations, Almere Oosterwold represents a one-of-a-kind terrain for experimentation and a new way of seeing the planning and design for sustainable urban development with agriculture.

CONCLUSIONS

The surge of interest in the design and planning for edible landscapes, and the growing number of urban communities of practice privileging local and sustainably-grown produce, are opening an unforeseen window of opportunity for repositioning marginal and periurban landscapes as sites full of potential rather than negatively perceived markers of inefficient planning. A small but growing cohort of architects and urban planners worldwide are beginning to rethink their professional practices and the conceptual frameworks they work with to explore the possibilities for creating novel interfaces between built and food producing environments. Residual and intermediate landscapes thus emerge as a new terrain for the design of productive places and services that can facilitate a transition towards a more hybrid urban-rural landscape and economy and harness its socioeconomic and ecological benefits for both urban and rural dwellers.

The variety of new explorations in this emerging field of practices briefly examined in the chapter, however, is not without its own challenges and roadblocks to overcome. For one, urban agriculture is still a niche urban practice and has to cope with a host of criticisms – such as safety of produce, ability to compete with other more lucrative land uses, and complaints about noise, pests, and odors – to prove its legitimacy and withstand pushback by policymakers, concerned citizens, and real estate developers. Uncertainties about maintenance of edible landscape infrastructures, particularly in the face of extremely volatile socioeconomic and ethnic compositions of urban populations in large metropolises, are also part of the challenge. For some critical observers, agri-urban developers on the urban fringe can in reality spur more consumption of farmland under the pretext of keeping part of the land in production, while others question the extent to which mere spatial proximity to opportunities for direct food growing and purchases can be a proxy for change in dominant lifestyles and food consumption practices.

Future research in this field will inevitably need to focus on effective research methodologies and representation techniques that can rigorously expose both the benefits and potential drawbacks of different typologies of transitions from marginal to productive landscapes. The legitimation of these interventions will greatly depend on the degree of sophistication we will be able to achieve in assessing the tradeoffs between different plausible alternatives and their distinct contributions to advancing social, ecological, public health, and economic development goals in existing metropolitan areas. Innovative prototypes and pilot project are certainly going to be a key part of the process as will be policy analyses and in-depth ethnographic research of social practices. Ultimately, no matter the variety of limitation the rescaling of agriculture in cities may face, food – and the landscapes it produces – remains one of the most powerful lenses through which we can viscerally appreciate and reconsider who we were, who we are, and who we aspire to become, both as individuals and as a society.

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SECTION 4

GOOD PRACTICES

THE CASE OF MONTJEAN IN RUNGIS, PARIS

In the Montjean valley, the city of Rungis is one of the area's main economical centres. This territory is situated 13 km from Paris, 2 Km from the Orly airport and it is located between different important infrastructures. This means that it plays a strategic role within the whole region. A large number of enterprises enrich this area. Rungis is an old village, it had and still has a large amount of spring water and since its foundation, has had a rural vocation.

During the sixties and the seventies, the heavy real estate pressure and the scarcity of buildable areas within the peripherique, implied a strong densification of the area: new collective residential buildings, logements collectifs, and one family houses, pavillons, have redrawn the entire landscape of the valley. In 1969, moreover, the central market Les Halles has been moved there, making this territory the most important agribusiness market of fresh produce, the Marché international de Rungis. Despite these important physical and social changes, the city tried to keep its relationship with the agricultural tradition. The territorial plan of the Montjean valley, EPA-ORSA Plaine de Montjean which is led by the city of Rungis, focuses its attention on this idea. The strategic addresses of the plan are aimed at creating spatial and functional connections in order to share spaces and places. In addition, the reuse of valley's water system, the development of agricultural activities and also the redefinition of the infrastructural system and the experimentation of new ways of inhabiting, intend to create new sustainable development of the area.

THE AGROQUARTER OF MONTJEAN: BUILDING A DEFINITIVE EDGE ON THE AGRICULTURAL FRONTIER

Claire Schorter

The construction of a definitive urban fringe on the agricultural plain of Montjean was a controversial act. The need to refocus urban thinking towards the qualities of the existing city, increase density and improve urban quality are undebatable. In response, an agreement was reached. EPA ORSA, representing the state, will construct an edge (which will be the last), but will in the meantime undertake a transformation of the plain into an ecosystem celebrating natural cycles - water and soil in particular - while ensuring organic agricultural production for local consumption. Studies conducted in 2014 and 2015, punctuated by numerous meetings between the architects, landscape designers, elected officials and city technical staff from EPA ORSA and the City of Rungis led to the outline of an initial phase. The operational phase of development is now underway with the goal of building the first houses in 2018; accompanied by the first developments of the agricultural plain that will incorporate vegetable plots and a walking trail in 2017.

From the seventeenth century, the territory of Rungis has literally and figuratively fed Paris and its surroundings. The city's water was supplied by the aqueduct Medicis, which passed through the

Figure 44 | From a subservient territory to a resilient territory. Source: Claire Schorter Architecture & Urbanisme

Rungis stream. Food was distributed through the Marché d'Intérêt National, and the Horticultural Centre of the City of Paris produces all flowering plants and trees for the parks and gardens of the capital. One can also cite the "distribution" of goods and persons at the nearby Orly airport. All these features make Rungis an exceptional site, at the confluence of the major routes of the A6, A86 and RN7. However, it is first and foremost a territory that serves big box retail and large outlet stores. The agro-urban project of the Montjean plain opens up a new age for the district. It will no longer focus on mass retail or metropolisation, but an urban / rural complementarity, local agricultural production and consumption, resilient environments and holistic approaches to water and biomass energy production.

The complementarity between town and country begins with the way they are used. The reconfiguration of the agricultural plain and the creation of a new inhabited fringe allows us to rethink how to enjoy wandering within and contemplating this vast open space. A circular route connecting the city and the plain was conceived of as a result of this reflection. Appropriating the historic streets of Rue de l'Abreuvoir and Rue Pasteur, as well as old local roads forgotten today, it becomes a walking path that connects the three existing urban centres, the major public amenities and the plain leading up to the Montjean castle and the park in Wissous. It allows a simple reading of the historical structure of the city and its geography that links the city, the river system and the agricultural plain.
Furthermore, this pedestrian loop alternates modes of agricultural production. The Montjean plain will become a market garden plain, dotted with hedges, greenhouses or tunnels for plantations. While this new program allows for the renewal of agricultural quality and natural cycles, it also partially removes the vista of the open landscape. Set on a curve of the valley, the loop will retain this perception by defining two types of cultivation: the western face of the valley will remain planted with wheat, canola or flax – maintaining the existing expansive views, while the plateau will be developed with more compartmentalized vegetable gardening.

Figure 45 | The Montjean Loop.
Source: Claire Schorter Architecture & Urbanisme

WINDOWS ON THE PLAIN

The construction of a new built layer on the southern edge of Rungis needed to be completed with extreme sensitivity vis-à-vis both the existing natural environments and cycles and also the inhabitants and their existing frontier lifestyle. In particular, living on the edge of the plain allows inhabitants to enjoy wide open views of the horizon, a privileged condition so close to Paris. These views are now part of the Rungis heritage; maintaining them is one of the defining principles of the project. These goals (1, 2, 3, 4) required us to recalibrate the urban footprints originally envisioned in order to maintain major perspectives from the place du Lagué (2) and the colline Cacao in particular (1). Windows on the plain also exist near rue du Bout de la Ville, framed by the alleys of the Lagué neighbourhood. To maintain them, the project creates unbuilt "linear meadows". These serve as green lungs for the future neighborhood, and maintain walking paths.

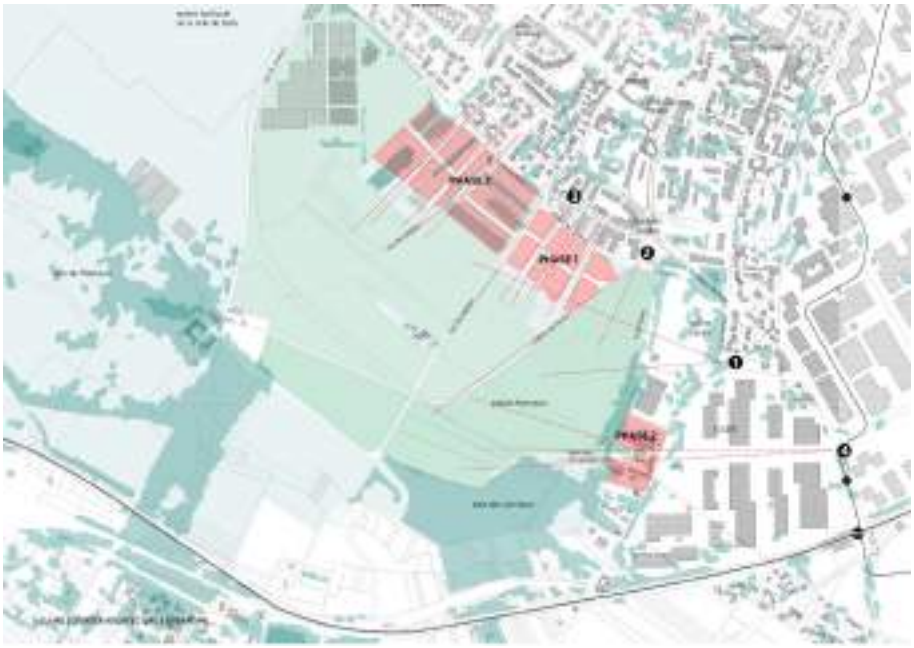

Figure 46 | Masterplan "the Agroquarter of Montjean". Source: Claire Schorter Architecture & Urbanisme

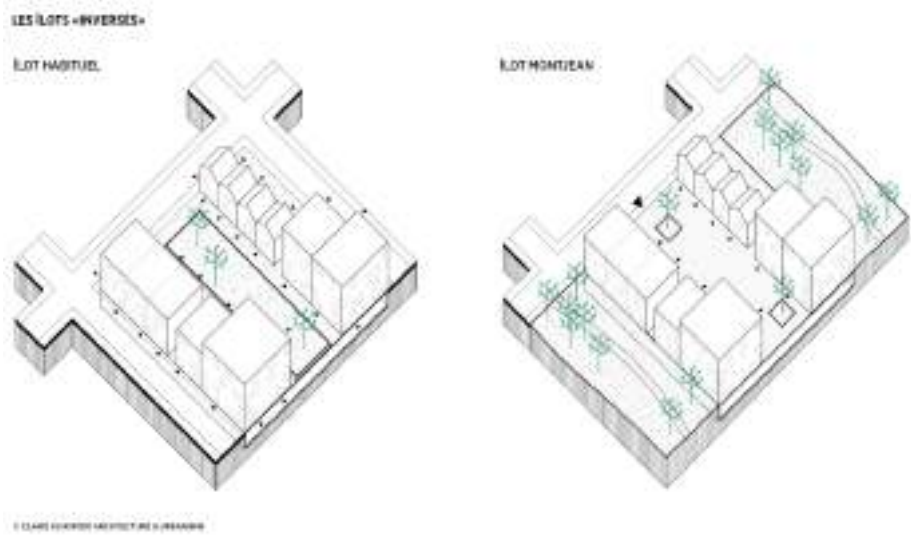

Figure 47 | The classic blocks and the inverted blocks. Source: Claire Schorter Architecture & Urbanisme

ACCESS TO THE NEW DISTRICT

To avoid penalizing existing residents with new vehicular circulation, the new quarter will be accessed from the voie des Jumeaux. A new street loop provides access to the housing blocks located on either side. North of the district, the loop occupies the Chemin des Champs, which will be transformed into a street. This path, rather narrow and winding, is arranged to give priority to pedestrians and bicycles, and will limit vehicle speed to 20km/h. It will be partially planted and host a carpark for visitors.
The paths towards the plain are maintained through the linear meadows and the new Chemin de Montjean, which takes the large plain discovery loop from the place du Lagué. A new promenade running along the newly built edge recreates the walk of the current Chemin des Champs.

THE HOUSING BLOCKS OR « ÎLOTS »

The proposed urban form is organized around urban windows in order to maintain vistas to the horizon from the city. It therefore establishes a grain that alternates between complete urban blocks interspaced with linear meadows, creating an environment where city and nature intertwine and enrich one other.
Thus, each block is surrounded by greenery on two or three sides, with the fourth being occupied by the public central street. Inside the block, a private and residential courtyard provides access to private dwellings in the form of either houses or small apartment blocks. All dwellings have dual aspects with views of both the interior courtyard and the linear meadows with a terrace or balcony.
The blocks are therefore arranged with a predominantly hard-landscaped interior and a soft-landscaped permeable exterior, in contrast to the common European perimeter block. We have therefore dubbed them 'inverted blocks'.

A POROUS NEIGHBORHOOD

The act of placing part of a town on an agricultural plain is not trivial. In the current context of the fight against global warming, the need to intensify, densify and improve the quality of our existing urban environments cannot be ignored. An argument for the growth of our urban boundaries can only be made with an exemplary project. Therefore, the maintenance of porous, filtering, planted and biodiversity carrying soils is one of the central pillars of the project. As a result, 42% of the Project of the agro neighborhood of Montjean is restricted to porous planted areas including linear meadows, wooded strips and home gardens. The vegetal soil excavated for the new development is reused on the agricultural plain.

HOUSING FOR ALL

The new dwellings are an opportunity to boost the municipality's population, currently declining due to an aging population and difficulties in retaining young families due to a lack of suitable housing stock such as rental housing and small-sized homes. It is also an opportunity to meet the remedial social housing objectives by devoting 35% of programs to social housing operations, or about 90 units. The project therefore includes a diversity of dwellings in terms of sizes (studio to T5), forms (Town house, duplex homes, collective housing) and in their situation (including a few large apartments with views over the plain complementing the surrounding suburban offer). It also plans to experiment with housing for the elderly.

DOUBLE ASPECT HOUSING, SUNNY, WITH VIEWS

This diversity of housing is reflected in a varied urban block that assembles both urban houses and small apartment blocks within the same block. The lowest buildings are mostly located southeast of the block, in order to avoid not overshadowing the neighboring homes. Detailed work was carried out to ensure that every living room receives sunlight for a minimum of 4h daily, even in winter.
Every apartment has a balcony facing the linear meadow. The gardens of dwellings on the ground floor are separated from public areas by a planted hedge which protects the privacy of the residents.

THE WOODED 'LISIÈRE'

There is a term in French used to describe the edge of the forest, where biodiversity and plant life is at its most diverse and abundant. This is the lisière. Situated between town and country, the agro-quarter of Montjean is conceived of as a thick, wooded lisière, rich in uses, biodiversity and character, but one that also serves as a definitive edge to the urban tissue. The building layout, the quality of the architecture and the transitions between inside and outside through the facades, balconies, terraces, private and community gardens build relationships within and around. High-quality public spaces in a diversity of situations were developed to support the appropriation by the existing residents of Rungis and their continuing attachment to the territory. Here, on the southern boundary of the plain, a wooded lisière allows for the integration of new buildings, to offer new uses, and an environment that participates in the bioclimatic renewal of the emerging district (shading facades in summer, breaking the prevailing winds, fighting against heat) as well as the richness and complementarity of natural environments.

BALCONY SQUARE AND GARDENS, THE NEW PUBLIC SPACES OF THE PLAIN

Southeast of the neighborhood, along the Montjean loop, a small 'balcony' square overlooking the plain offers the possibility to stop for a coffee while enjoying a unique view of the valley of the Rungis stream, the colline Cacao and the Forest des Jumeaux. A little further along, the Montjean path follows the new allotments of the lisière. Conceived of for the inhabitants of Rungis, they are organized around a common greenhouse and a convivial communal space. This space also houses an educational garden for the nearby school and a public 'olfactory garden'. To take advantage of new vegetable cultivation, a shop selling products of the plain will be built nearby.

THE NEW SCHOOL OF THE PLAIN

In the medium term, a primary school and kindergarten of 6 to 8 classes will be built to the south of the new district. Directly accessible from the place du Lagué and the new balcony square, it will be for children of the new district and the southeast sectors of Rungis. Its exceptional location on the edge of the agricultural plain is an opportunity to educate the next generations on the issues of resilient and sustainable cities, being part of natural cycles and reducing food miles.

COMPOSING THE CITY AND THE PLAIN TOGETHER

The clear delimitation of productive agricultural land does not preclude the design of new residential neighborhoods as thick and porous borders that preserve the open space of the plain while multiplying interfaces and stimulating exchanges between contrasting environments. The construction of a new built edge on the southern edge of Rungis was planned with extreme sensitivity towards the current inhabitants of the border, as well as the natural environments and cycles in place, particularly those pertaining to water and the soil. The fundamentals of the project are therefore: maintaining views towards the plain, the recovery of cultivatable soil and storm water runoff to benefit agricultural production, maintaining porous ground where the urban blocks are situated, ensuring sufficient solar penetration of all dwellings including at the winter solstice, gentle variation of urban grain and differentiated public spaces, including a small square, meadow alleys, a lookout path and a wooded buffer strip.

A prime location, exemplary responsibility! The new neighborhood of Montjean is representative of contemporary attitudes towards the design of residential areas: convivial, sustainable, energy efficient, diverse, ambitious housing quality and attention to lifestyles and architecture design.

Figure 48 | The new public spaces of the plain. Source: Claire Schorter Architecture & Urbanisme

LA PLAINE DE MONTJEAN, RUNGIS, FRANCE: A GREEN OASIS TO PRESERVE FROM URBANIZATION

Laurence Rosaz

OVERVIEW

The "Plaine de Montjean" territory spreads beyond the city of Rungis to the cities of Fresnes and Wissous, over 200 hectares. Surrounded by an airport, highways and railway infrastructure, the « Plaine de Montjean » is a pause to breathe in a very mineral rich environment. The Plaine also offers a rich and diverse landscape: fields of cereals at Rungis, the Montjean castle and park at Wissous and the nursery garden of the city of Paris based at Fresnes and Rungis.

In the 80's, planning focused on urbanizing farming and horticultural lands at Rungis. The French government was in charge of the project. A very powerful planning tool, the "Zone d'aménagement différé" (postponed planning area), was used to control speculation and the French government started to acquire farm land. In 2007, the Montjean project was transferred to one of the French government's public institutions in charge of urban planning, "l'EPA ORSA". At this stage, the purpose was to build 2,000 to 3,000 housing units in order to respond to a regional housing crisis.

The reaction against this orientation came from the cities of Rungis, Fresnes and Wissous, who created and gathered in a new public institution: the "Syndicat de valorisation de la Plaine de Montjean". Its principal goal was to promote the site of Montjean and its many diverse qualities in terms of agriculture, horticulture, nature, landscape and the environment, beyond the institutional boundaries. Its work helped local associations, private companies and institutional actors to have a better idea of the issues at stake.
From this collaborative experience, a protocol endorsed by EPA ORSA and the Syndicat of Montjean emerged in 2013. The protocol offered a frame for dialogue about the studies to be accomplished, as well as how and when they should be led in order to design a fully realized project. At this very moment, the site is no longer being considered for urbanization, but as a place to be preserved above all.

DESIGNING THE "PLAINE DE MONTJEAN"

In 2014, EPA ORSA and the "Syndicat de la Plaine" agreed on the main project guidelines, giving primary importance to agriculture, horticulture and the protection of nature.

First, a pedestrian network was designed in order to reestablish the walking habits from the nei-

ghborhoods through the Plaine. It was a very important element of the project because the inhabitants would be able to walk again through the Plaine to the castle and the park.
Also, the project had to answer one major issue: housing. The city of Rungis, which was more concerned about the issue, agreed on a final building program, about 750 housing units. This program also responded to a local need for middle sized housing, lacking ones suitable for small families, young couples, separated couples and senior citizens.
Finally, the different public institutions agreed on supporting agricultural economic regeneration; from a cereal farming production to market gardening production, more appropriate to local needs. However, gardening production is very taxing on water supplies and requires a sustainable answer, such as collecting storm water and groundwater.

The consensus about the project guidelines, from all public and private actors, allowed for the inclusion of the Montjean project in urban master plans.

THE PLAINE DE MONTJEAN IN THE MASTER PLANS: THE FIRST STEP TO ACHIEVEMENT

In France, urban projects need to be compatible with local master plans regarding the local construction rules. Moreover, local master plans need to be compatible with regional master plans.

The Ile-de-France regional master plan was approved in December 2013, upon the Syndicat's works. The plan describes the Plaine entity, 3 cities and the planning guidelines for moderate urbanization and to strongly protect agriculture, nature and horticulture.

In conformity with the regional master plan, the Rungis local master plan was approved in December 2015. The plan defines the urban sectors to be built and the agricultural and natural sectors to be protected and regenerated. The maps also define the future pedestrian and natural areas. Regarding the construction rules, they reflect landscape protection, both for housing and farm buildings. For example, even farm buildings will not be able to exceed a certain height in order to preserve the views.

In addition to the regional and local master plans, EPA ORSA and the Syndicat have been looking for a powerful tool to protect the agricultural, horticultural and natural Plaine from a hypothetical future urbanizing plan. The tool required, the « périmètre régional d'intervention foncière – PRIF » (regional land control perimeter) is used by the Green Lands Regional Agency– AEV-, a branch of

Figure 49 | © Adamo Maio

the Ile-de-France Regional Council. The "PRIF" of Montjean was approved by AEV in July 2015 and the Regional Council in October 2015. It's the more appropriate tool for the protection of agricultural and natural lands. It freezes land usages beyond the regional and local master plans. It's also a planning and enhancement tool for AEV, EPA ORSA and local intuitions.

THE INSTITUTIONS INVOLVED

To summarize, four institutions have played a major role on the Plaine de Montjean.
The French government issues land to its planning directives based on housing and agricultural land consumption. The government is also involved through the EPA ORSA, the public institution in charge of urbanization programs.

Today, the French government has agreed on the Rungis housing construction program; about 900 housing units throughout the city territory and 750 on the Plaine.
Concerning EPA ORSA, they plan, in an ultimate step, to give up and sell the agriculture lands acquired to be urbanized in the first place to AEV in order to settle new market gardeners and build the pedestrian alleys through the Plaine.

Ile-de-France Regional Council is involved through the regional master plan, locating urbanized, natural and agricultural areas to preserve, enhance and plan. The Regional Council also exists locally through AEV and its tool, the PRIF. AEV's missions are about preserving biodiversity, environmental and landscape qualities; provide public and pedestrian areas, whenever it's possible and preserving the land to be farmed and gardened.
AEV is now leading studies about the evolution from cereal farming to permaculture gardening. The permaculture project, an organic and more sustainable approach to agriculture, has been approved by local associations, public institutions and corporate institutions.

The city of Rungis acts through its local master plan and guidelines. The city goals are to spread the most recognized qualities of the city in the Montjean project such as the human scale neighborhood, many pedestrian and green areas, slow traffic streets, good cultural and sports facilities. Also, the city of Rungis actively promotes a new agricultural era, non-mechanized, sustainable regarding water and energy supply plus waste management and more focused on local needs and population such as inhabitants, schools, and restaurants.

Figure 50 | © Adamo Maio

The Syndicat of Montjean is in charge of Montjean preservation and planning guidelines, in both urban and agricultural projects. The Syndicat's role is also to communicate between the cities' representatives and EPA ORSA, at a larger scale.

CONCLUSION

In 2020, during the first phase, 250 housing units will be delivered in the Plaine. AEV is also planning the first constructions in 2018, concerning water supply and pedestrian alleys, in order to facilitate the settlement of the first market gardeners. Everyone agrees that conducting urban and agricultural projects simultaneously is the key to success. Public institutions are presently working on coordinating these efforts.

Working on the project as an urban planner is a great experience at many levels. First, by observing and being part of a dynamic setting where almost every institutional or private actor involved was able to step away from their own interest to recognize and focus on the specific issues of Montjean. Second, by helping the local representatives and the population understand the issues at stake, both at a global and local scale. Third, it provides the opportunity for participation in a highly creative and innovative project, dealing with urban agriculture as well as agricultural urbanization.

SECTION 5

APPROACH AND WORKING METHOD

A RESEARCH BY DESIGN WORKSHOP

The workshop intends to tackle complex issues of urban transformation through design activities

In order to understand the complexity and multidimensionality of the issue, both of the problems and the opportunities given by the workshop's themes and cases, and in order to exploit design as an investigation tool, different research activities had been carried out with the following aims; to interpret the context, to imagine possible transformations and to reflect upon the implications and the consequences of the transformation process.

Within this framework, the workshop defined different design proposals able to deal with both the dimension of the spatial transformation and the dimension of policy. From this perspective, the project - in its different forms (strategies and actions, guide lines, visions, scenarios, and simulations) – has been used as a means of knowledge and research, not just a final prefiguration of future, and as an effective device to approach research as a creative process.

DESIGN AS A TOOL. NOTES ABOUT "RESEARCH BY DESIGN" ACTIVITIES

Antonella Bruzzese

The "Research by Design" workshop discussed in this paper was held as part of the PhD in Urban Planning Design and Policy. The title of the workshop explicitly refers to the desire to consider the practice of design a research tool in itself. Design is not a self-evidently a means of research and, as such, merits a number of methodological considerations.

ON THE PRACTICE OF DESIGN

"Design" is the outcome of a complex activity of imagining and describing something which does not yet exist in the present. Specifically, architectural and urban design is a practice which aims to transform space and its uses. It is a "forward-looking" practice (d'Alfonso, Franzini, 1991) which, despite being based on existing, concrete and measurable contextual information, imagines its transformation, altering the present state of things and thus offering a "conjecture about the future" (Jouvenel, 1967).

Beyond this, design also imagines ways of achieving such transformations, and thus comes up against the issue of what concrete possibilities of changing reality exist. In other words, a project must not only set out objectives and imagine what must be done, but must also contend with the aspect of "how" it is to be done and with the issue feasibility in its broadest (i.e. technical, economic, social and political, etc.) sense if it aspires to be a credible project. Without this, we are left with mere representations of a possible "desired future" to which to aspire, as opposed to "projects".

Design, therefore has a fundamentally practical dimension (Gabellini, 2010) because – as already mentioned above – it regards the modification of space and its uses, as it has to deal with the question of feasibility, and because the process that leads to a project can be considered a process of "learning by doing", owing its very existence to experience: an assumption is translated into a simulated transformation – in the case of urban design, a spatialised, contextual simulation – which must necessarily undergo a process of verification/falsification (can it work?), further advancing as the level of detail increases. We are thus dealing with a process consisting of a sequence of hypotheses, verifications and revisions, corrections and new formulations, and so on through a series of progressive steps. In this activity – one which is eminently practical, strongly linked to context, and learns from experience, a far cry from the application of abstract theory – trials and tests take on the same central importance as that which Richard Sennett has attributed to the practice and repetition

of craft (Sennett, 2008).
The activity of design, therefore, is driven by two apparently opposing procedural methods: on one side, by the freedom and "visionary" impetus necessary to formulate hypotheses for the transformation of reality; on the other by the capacity of establishing "how" to pursue those hypotheses through simulation and verification.

All of this is part of a process which is never linear, but rather one which depends – as do all practical activities – not only on elements which are given from the outset but also on unexpected elements, sometimes out-and-out accidents along the way, diversions and unforeseen events that must find room within the general design framework, and which the designer must be capable of "connecting" or reinterpreting in an innovative, original way. Whereas "visions" are not influenced, redefined or even tainted by reality, projects, in contrast, are constantly, and their quality lies precisely in their ability to maintain coherence, regardless of unforeseen events. While such an ability certainly depends on the talent of the designer, it also depends on the quality and quantity of information (whether culled from direct experience or indirect knowledge) that can be organised into a new framework of meaning as required.

Design, therefore, is an activity that synthesises multiple aspects and demands a courageous predisposition towards the pursuit of vision, a respectful capacity to deal with reality and context, an attitude of humility to revision and challenge, and the ability to quickly mobilise references from the repertoire of past projects.

KNOWLEDGE AND CREATIVITY

How can the activity of design be a tool for research?

In reality, research and design share many similarities. Indeed, only apparently is research a purely analytical process which progresses in a linear fashion from the collection to the analysis and interpretation of data in order to formulate new theories.

In the early twentieth century, the mathematician and philosopher of science, Henri Poincaré, in his *The Foundations of Science*, was the first to stress the role of creativity in the process of constructing scientific knowledge. He defined it the capacity "to connect existing elements, with new, useful connections and links" and emphasised how, also in the work of research, the transition from data to interpretation assumes a non-linear jump which makes it possible for reasoning to be advanced. "If a new result has value it is when, by binding together long-known elements, until now scattered and appearing unrelated to each other, it suddenly brings order where there reigned apparent disorder." He goes on to define at least three steps as being essential to this process: 1. knowledge of the existing situation; 2. the ability to select and bind together according to an objective; 3. conscious and unconscious work capable of revealing the unexpected. And on the subject of unconscious work, he points out that "it is impossible, and in any case remains sterile, if not preceded and followed by a period of conscious work". It is thus a sequence in which analytical and conscious work alternates with intuitive and unconscious work, exactly as Graham Wallas, social psychologist and co-founder of the London School of Economics, claimed some years later in *The Art of Thought* (1926). Wallas even proposed a fully-fledged model of the creative process which he saw as consisting mainly of four steps: 1. so-called *preparation*, that is, identification and definition of the problem; 2. *incubation*, the work of analysing and interpreting the data acquired; 3. so-called *illumination (insight)*, achieving a new synthesis which is often instantaneous and unexpected; 4. finally, a series of activities of *verification*, the formalisation and communication of the "invention". For Graham, too, there is an alternation between logical thinking (preparation and verification) and analogical thinking (incubation and "illumination"). Hence the research process similarly requires a "creative" capacity to select and connect which is not solely the mechanical result of an analytical deduction but very similar to that necessary, courageous, intuitive, non-deductive capacity, typical of design, which is capable of imagining something which does not yet exist.

DESIGN AS A TOOL: REFERENCES FOR A POSSIBLE DEFINITION

Some ways of defining design can help clarify its role as a *tool in a process of research*. Three references seem particularly pertinent to me.

The first is to Giancarlo De Carlo, who defines design as a "tentative" activity, capable of "tempting the situation". Design is a useful tool for forcing us to interpret the transformative potential of a space and its uses, to test whether a hypothetical modification is tenable. Design renders a transformation of a place palpable; it makes it visible and therefore "discussable" in the sense that it may be the subject of a potential debate or of a discourse and hence a useful tool of knowledge. This way of looking at design was extensively tested at ILAUD, the summer school which De Carlo directed for years. "Design, for ILAUD, more than a definitive proposal, *is a means of understanding the problem* being dealt with in architectural terms. Indeed, ILAUD believes that design cannot achieve convincing solutions without detailed knowledge of the situations in which it intervenes ... Design may therefore be termed 'tentative', not only in the sense that it attempts to reach the solution through tests and checks, but also in the sense that it places in temptation the situation with which it deals, in order to bring out its imbalances and understand how and to what extent it can change, without being distorted, and finally achieving new balances". (De Carlo, in Buncuga 2001)

A second reference is Donald Schön who, in *The Reflective Practitioner*, describes the design process of a design studio – a two-way process shifting back and forth between hypothesis and verification in which design and reasoning are two forms of design language – as a prime example of reflective professional practice capable of producing knowledge through "conversation with the situation". The design process, as it develops, constantly asks questions about the feasibility of the project, its relevance, its effectiveness. It does so by raising questions, case by case, to which it seeks to provide answers and, vice versa, by reframing the initial assumptions and the very questions themselves, starting with some of the solutions proposed. Each move and each advancement is a "partial experiment that contributes to the overall experiment of solving the problem. Some moves face resistance (...) while others generate new phenomena" or show further implications and reveal other aspects of the context, the situation or the problem.

Therefore, while De Carlo's design "tempts" the situation and the change in the landscape, Schön emphasises the ways in which this occurs and the collateral knowledge produced by the construction of design.

A final reference is the work of Paola Viganò who, in 2010, systemised these ideas, asserting the role of design as a genuine "producer of knowledge" specifically through three different ways of reasoning with reality. First, design is a knowledge tool in that it uses forms of *conceptualisation of reality*; in other words, it offers a synthesis of complex situations. Secondly, design produces fully-fledged *descriptions of reality*: design is a specific form of description – in the future tense – of reality which acknowledges relationships and proposes discontinuities. Thirdly, design is a tool of knowledge as it draws up *conjectures about the future* (Infussi, 2007), specifically by setting out scenarios which examine the effects of transformations and which could not do so in the absence of an imaginative capacity to place transformation in the present while asking about its future consequences.

Design is therefore a research tool when it introduces useful elements of discontinuity regarding the status quo that "tempt the situation", when it visualises a hypothetical transformation "in conversation" with the related local, social and economic context, and when it enables conjectures regarding the future and the effects of transformation which move the debate forward.

DESIGN AS A TOOL: NECESSARY CHARACTERISTICS

Taking as a springboard the arguments set out above regarding the nature of the activity of design, the relationship between creativity and the construction of knowledge and ways of seeing design as (among other things) a research tool, I would like to conclude with a number of considerations

which I consider fundamental with regard to the characteristics of design and the "research by design" process.

An initial characteristic has to do with the clarity and communication of design choices. For design to be used effectively as a tool, it must be "understandable" and the assumptions it presents clear (Bruzzese, 2007). Making the choices involved in a design proposal "sayable" and "discussable" in order to be able to effectively talk about them and advance reasoning. In a process of "research by design", the clarity of the choices and, at times, their radicalisation aid the understanding of a hypothesis and facilitate an understanding of all of its implications. Similarly, it is vital that we construct arguments in support of these choices, explaining the reasons behind them and translating intuition into a series of reasons that can be discussed.

A second characteristic which I consider necessary concerns the nature of design, which must be open and adaptable. Only design constructed as a device and therefore not as a final, unalterable product but rather an illustration of a hypothesis, which is changeable and adaptable to various contexts that can change both over time as well as with changes in certain conditions, to some extent open and flexible, can be a tool in the research process. Because – in the words of De Carlo – it not only attempts a situation and modifies it, but is also capable of granting requests which emerge from debate and change in turn by suggesting new possibilities and new potential solutions. In these terms, a predisposition to modifiability is a necessary attribute if debate is to be furthered.

A final point concerns the way in which design itself with the characteristics outlined above is used in the research process: the need for the ability to be reflective and reflexive. This, first and foremost, must consist in ability to interpret the implications of the project. Put another way, if design is to be a tool as opposed to the ultimate goal, we need to be able to identify the consequences of the project itself, asking ourselves not only whether it is tenable but also how it is to be managed and maintained. In this respect, it is a question of taking into account the temporal dimension not only during the design process (a back-and-forth process with amendments and additions), but also after its the hypothetical or actual completion of the project. What happens when the project is completed? What effects does it have locally or, more generally, in terms of the issue we originally intended to tackle by means of the design proposal itself? Only by implementing this piece of reasoning can design truly be used as a research tool, can we use the transformative potential of design as such.

Figure 51 | © Adamo Maio

The projects developed by the PhD candidates and presented in these pages interpret design as a tool in different ways. Some have adopted the scenario-based design tool, asking questions directly along "what if" lines. Others, in contrast, have set out a number of unequivocal solutions. Nevertheless, all of the projects have pursued a process of gradual refinements following on from the various meetings, surveys, revisions and corrections through a process of *learning by doing*, taking someone's idea and attempting to put it into practice, coming up against problems of feasibility, performance, and so on, as well as an entire series of aspects that only design reveals (and which do not exhaust its complexity). These tentative projects have all effectively sought to say something about the areas in which we have worked and the complex relationship between the urban fabric and open and/or agricultural areas.

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THE WORKSHOP: AN APPARATUS FOR ARCHITECTURE DES MILIEUX

Annarita Lapenna

SPACES AND MILIEUS

If we understand space just through a mathematical meaning[1], it seems to be a dimension, a measurable entity. If, instead, we consider it as an inhabited area, a space becomes a milieu. In fact, a milieu is the relationship between a subject and a territorial area; this relationship produces experience[2]. A field of corn, for instance, is a space with precise dimensions which are the length and the width. At the same time, the field is the milieu of the farmer that cultivates it, the milieu of the parasite that nests in the vegetation and the milieu of the buyers who purchase the corn from the farmer. The farmer, the parasite and the buyers are just three subjects out of many others by which this space can create a relationship. Recognizing this broad set of connections, as well as denying it, heavily influences the quality of living systems.

Over time, this multiplicity of milieus and the complexity that develops from it, has been the subject of a simplification process. In fact, in order to be able to clearly analyze the places and, therefore, to control them, the wealth of territorial practices has been simplified. The complex links of milieus have been interpreted through a functionalist reading. From the *Charte d'Athènes* (Le Corbusier, 1938), a fixed strategy of standardization has led to summarization of human practices in a few functions. In this way, the territory has clearly been analyzed to propose an effective territorial planning. This approach has triggered a process that has put, over time, a deep distance between the planning and the territorial practices. In fact, for decades, planning has tried to find in every place the same critical situations in order to propose "absolute" solutions, dissociated by the context. The application of generalized solutions in singular territories has produced a fragmentation of these places. The complexity of the relationships among humans and between humans and the environment has continued to impoverish itself.

Western society is experiencing an economic, social and environmental crisis. This raises the demand for new strategic forms of spatial planning (Oosterlynck et al., 2011). As a first move, this situation presupposes a new definition of territorial resources (D'Arienzo et al., 2016). From this perspective, the multiplicity of milieus becomes a fundamental resource. Together, the particular ecosystems of some species, the traditions and the cultures that express a synergy between humans and nature and the territorial practices able to activate new local and global environmental potentialities, woven together to create fluid connections over time between living beings and the environment.

Related to the concept of multiplicity, the concept of milieu assumes its deeper sense. The French

word *milieu* means "context", "environment", but it also means *the intermediate position*. It is interesting to observe the territory starting from this interpretation in order to identify t*he intermediate position* among subjects in order to investigate the possible interfaces. These interfaces are the passages that allow communication between many subjects. Sometimes these passages are fleeting and unpredictable. That means the renunciation of obvious readings of the territory and of the predetermined analysis in favor of a permanent experimentation. Such an approach allows for a singular and unusual study of the territory.
From this perspective, *the architecture des milieux*[3] comes as a working hypothesis based on the combination of theory and practice. It is an experimental process that doesn't propose dogmas and fixed recipes to design (Bonnet, 2010). Defining the interaction between disciplines, points of view and scales as its strong bases, *the architecture des milieux* supports the activation of ecological networks. Some conflicts and disagreements could emerge and sometimes they destabilize the process endangering the effectiveness of the strategic planning. In this sense, we are invited to provide ourselves with a particular apparatus – that supports exchange, openness and synergy among different milieus. Such an apparatus, that we could call inter-milieu, turn the conflicts and the disagreements into an occasion to redefine new concepts, new geographies and new possible alliances.

WHAT IS AN (INTER-MILIEU) APPARATUS?[4]

An apparatus activates a process of *desubjectification* that makes us lose our personal perception of things. However, it is not only an apparatus of violence; in fact, it could actually activate a process of *subjectification*. If it is understood as a way to create a virtuous cycle, an apparatus allows the reconstitution of a new subject. As Agamben (2009: 20) explains:

«The example of confession may elucidate the matter at hand: the formation of Western subjectivity that both split, is inseparable from this centuries-old activity of the apparatus of penitence – an apparatus in which a new I is constituted through the negation and, at the same time, the assumption of the old I. »

In the context of planning, Agamben's reflection about the apparatus could be a way to re-establish the processes of elaboration and experimentation of the territorial project. In other words, it calls the traditional planning process into question. In fact, it develops a desk analysis and then models a few type-strategies for many different territorial contexts. If we take *the architecture des milieux* as a working hypothesis, the inter-milieus apparatus could become a necessary passage to the interaction between disciplines, actors and also scales. Such interaction opens to different sensitivities and perceptions which put a strain on the traditional planning process based on predefined and certain models. The loss of certainty presents the possibility to experiment with new methods of theoretical research and creative work. Therefore, the territorial project doesn't impose himself as a form of control, but is compared with a vanished and uncertain reality (Balducci et al., 2011). In this perspective, the inter-milieu apparatus considers three worksites: the consultation between different actors, the creation of shared scenarios and the support of inter-milieu spaces. These worksites are connected through a network system without hierarchy: the cross processes create bridges from institutional consultation to existing inter-milieu spaces; territorial practices redraw geographies to modify the institutional planning; and inter-milieu spaces turn out to be special incubators of new territorial scenarios.
The consultation. The inter-milieu apparatus activates consultations in order that the different actors can expose their points of view to discuss the territorial transformations. That means sustaining an interdisciplinary approach, supported by the concept of trading zones (Galison, 1997; Balducci, 2011). Trading zones are able to produce a shared language for the interaction of knowledge and disciplines. Observing the innovation processes, Galison has noticed that trading zones result from the interactions between groups coming from different disciplinary fields. Beyond the different points of view and objectives, each actor has participated in creating an intermediary platform in order to communicate. The basic concept is that the need to exchange and to share encourages innovation. The paradigm shift occurs when a trading zone exists. According to the "science of muddling through" (Lindblom, 1959), such an approach takes advantage of diversity and otherness

in order to experiment with a sort of cooperation among different approaches which are often conflicting. The conflicts, as a legitimate expression of disagreement, play a decisive role in the workings of territorial governance. They enrich the local dynamics of democratic expression of opposing viewpoints (Torre, 2011) and contribute to both a redrawing of the preferences and points of view of the actors as well as to validate the common interests along the way.

The shared scenarios. Starting from a reading of the active and potential territorial resources, the imagination, as a creative force, plays a decisive role in creating scenarios. Making reference to the metaphor of the climber and the mountain by Hilary Putnam, Bernardo Secchi (Secchi, 1987) adds to the term "imagination" a sense of strong responsibility. To imagine, in fact, means to be highly critical compared to a particular and temporary situation in order to think about the future in terms of moves and repairable processes. To imagine a future vision requires reflection. In order to have a possible scenario of the territory, it is crucial to activate a participatory and sharing process. Even if the information is partial and imperfect, considering the pros and cons of everyone is the obligatory passage to create sustainable scenarios. From this sense, the strength of shared scenarios is to be supported, fed and accepted by a collective.

The inter-milieu spaces. Regarding the worksite of the consultation, different actors sit at the same table in order to bring out latent potentialities. The worksite of inter-milieu spaces physically turns the territory into places where some activities are shared. *The paradigm of sharing* guides many of the transformations in contemporary European cities (Bianchetti, 2014). This new paradigm produces an innovative city where the inter-milieu approach takes form and becomes a place of relationship. It is interesting to notice that such transformations are often produced by self-managed actions, in which the inhabitants are an active part of the territory. These actions aim to improve the habitability of the places. Some studies (see, for instance, Cottino, 2003) describe the Milanese city through the spontaneous actions and practices that transform the urban territory beyond the institutional planning. The spontaneous practices and actions can be understood as a particular system of territorial indicators able to gain the tendencies of the real city in order to structure the territorial project. In this perspective, institutions could learn from the transformations made by self-managed actions and propose a territorial project that understands the needs of those living in that place. It could be particularly interesting in the planning context, where information that cannot be known is often completely removed. This approach could encourage the cultural transition from a planning for the plan to a planning for the territory.

Figure 52 | © Adamo Maio

THE WORKSHOP, AN EXPERIMENTAL INTER-MILIEU APPARATUS

An inter-milieu apparatus initiates an open process. The top-down and the bottom-up processes can create rigid hierarchies and they often operate in one-way dynamics. We want to set the attention on an *à boucle* process. The creation of intermediary platforms, the interception of inter-milieu spaces and the creation of shared scenarios are three access points of an iterative and interactive process. By defining the inter-milieu apparatus, the workshop "Linking Territories" has been an experimentation of it. Refusing pre-established models of planning, the workshop has been an apparatus based on comparisons between debate disciplines, schools and cultures. The quantity and the heterogeneity of the participants involved in the project brought out different points of view, creating a few moments of disorientation! Starting from these difficulties and the process of de-subjectification, the apparatus-workshop has played an active and catalytic role in stimulating new thinking and new collaborations. During the months of work in Milan and in Paris, the researchers, the students, the local associations, and the professionals involved through local associations have formed one complex working group in order to experiment with an in-between approach. This experience tries to create a sort of new language among different methods. This workshop aims to show that this way of working could be strategic in order to debate contemporary urban transformations. In May, during the initial activities in Milan, some guests and public administrators were invited to reflect upon the workshop themes and to collect many points of view. In May, we also visited the site that we were studying and on which we were conducting research: the western region of Milan. This moment was very important to create a common ground. In July, the second session of the workshop was one intensive week for design activities. The students from the two universities worked together, in three groups, to develop some possible transformations for this territory. The mixed groups and the background of each student created a rich exchange. Some local actors took part in this activity to discuss the strategies and the feasibility of each project. During the final session, we discussed the workshop outcomes with guests and researchers.

Some Milanese western territories are very interesting in this study in order to investigate the peri-urban spaces between the compact city and the countryside. Starting from fragmented areas, we have identified some potential inter-milieu spaces. The rich districts of Boscoincittà-Parco delle Cave-Parco del Trenno, Muggiano village's countryside and the neighborhood of Piazza d'Armi and Parco Parri have served as the settings for the in-depth topics of the workshop[5].

Boscoincittà - Parco delle Cave - Parco del Trenno: starting from the existing inter-milieu spaces, the table discussions developed some shared possible scenarios. Since the 1970s, ItaliaNostra[6] has experimented with some territorial transformations in Milan. This experimentation has produced Boscoincittà, which has metabolized over time by the metropolitan system, and, today, is an essential part of the structure of the territory of Milan. Based on the sharing approach, such transformations have produced many co-managed spaces. Together with Parco delle Cave and Parco del Trenno, Boscoincittà has become a large precious green area of the west of Milan. These three macro milieus have kept many leftover spaces out of their boundaries that could be a resource for the territory. The discussions between the participants and the guests of the workshop have led to a redrawing of the new geographies identifying territorial fragments which are excluded from any project. The strength of the vision is that it is produced by a shared process of critical analysis. The process has proposed the transformation of such fragments in order to define interstitial elements that work in a territorial networked system. This shared vision could be a starting point for a possible project for the green area in the Milanese area vasta.

Muggiano: starting from discussions and consultations, a shared vision is produced in order to imagine inter-milieu spaces where different practices of the territory coexist.

In Muggiano territory, the rural areas and the urban residential areas are juxtaposed without any exchange between them. In fact, the intensive agriculture and urban practices seem to be incompatible. The deep transformations of this territory have, over time, cut the physical and social links between these vastly different worlds. Starting from this enclave situation, some discussions are opened in order to test the compatibility and the coexistence. For the conception of different scenarios, the consultation among different local actors and non-state actors has been decisive to carry out some multivariable analysis. One of the proposed scenarios is more relevant because it imagines hybrid forms of landscape where the multifunctionality is considered a way to innovate the local economy. The scenario tends, therefore, to support spaces of sharing.

Piazza d'Armi - Parco Parri: some discussions and exchanges have revealed that this area is rich of spaces of aggregation where the local associations discuss the future territorial transformations. Some possible scenarios are experimented with, while keeping in mind the pre-existing practices.
Baggio is a "sensitive" suburban zone in the Milanese western area. Recently, virtuous initiatives of urban regeneration have animated this particular area. Many local associations act on the territory, transforming it through some small actions. In this way, some spaces of sharing are created. Starting from these existing territorial resources, the workshop group has developed some scenarios making connections with the creative actions of the territory. Piazza d'Armi and Parco Parri, are now empty and abandoned areas. They are imagined as polycentric spaces for a program rich in activity. The proposed vision stresses social integration, turning the hyper-fragmented context into an occasion for a project of linking.

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NOTES

1 Geometry, a branch of mathematics, studies the space and the spatial figures defining, in a first place, the extension.
2 The word experience derives from the Latin *experientia(m) — experiens*, present participle of the verb *experiri*, that means to test, to experiment. In turn, the Latin term seems to refer to the Indo-European root **per*, that means to try, to cross space (J. P. Mallory and Douglas Q. Adams, 1997)
3 Le Portique Architecture des milieux no. 25 (Editions du Portique, 2010) https://leportique.revues.org/2469
4 It is an explicit reference to the Georgio Agamben's book "Che cos'è un dispositivo?" (Agamben G., 2006). The author tackled an issue discussed by Michael Foucault in the 70s.
5 See the chapter n.3: Proposals and Insights.
6 Italia Nostra is an Italian association for the safeguard and the maintenance of the Italian territory: see http://www.italianostra.org/

STARTING ACTIVITIES
milan

WORKSHOP TIMELINE

Public Conference

Pieter Versteegh (Western Switzerland University of Applied Siences, Fribourg), Paola Pucci (Politecnico di Milano), Chris Younès (Ecole Spéciale de Paris), Silvio Anderloni (Boscoincittà, Milano), Andrea Calori (Politecnico di Milano), Antonio Longo (Politecnico di Milano), Marco Prusicki (Politecnico di Milano), Gianni Scudo (Politecnico di Milano)

EXPO2015 visit

"Feeding the Planet, Energy for Life", universal exposition in Milan

Site visit

West of Milan: tour by feet et by bus - special guide: Silvio Anderloni (Boscoincittà)

May 5th

May 6th

May 7th

Kick-off activities

Discussion about the three issu
le Cave-Boscoincittà-Parco del
d'Armi-Parco Parri

Classroom work

Classroom work

Internal review with:
Silvio Anderloni (Bosc
dini (the milanese far

Classroom work

Classroom

Main r

Angela
Milanc
New Sc
Design
Morand

June 29th

June 30th

July 1st

July 2nd

July 3th

July 4th

INTENSIVE WORK
milan

ues proposed: Parco del-
Trenno, Muggiano, Piazza

Carlo Masera (architect),
oincittà), Niccolò Rever-
m “La Forestina”)

work

eview

a Colucci (Politecnico di
o),Rositsa T. Ilieva (The
chool, Parsons School od
n, New York City), Corinna
di (Politecnico di Milano)

FINAL ACTIVITIES AND PRESENTATION
paris

Classroom work

Public Conference

Final presentation with: Pierre Donadieu (Ecole Nationale Supériore de Paysage de Versailles-Marseille), Didier Rebois (Ecole Nationale Supériore d’Architecture de Paris La Villette)

Site visit

Montjean in Rungis: tour by feet - special guides: Claire Schorter (architect), Laurence Rosaz (Urbanism Director at Rungis City)

September 21th

September 22th

September 23th











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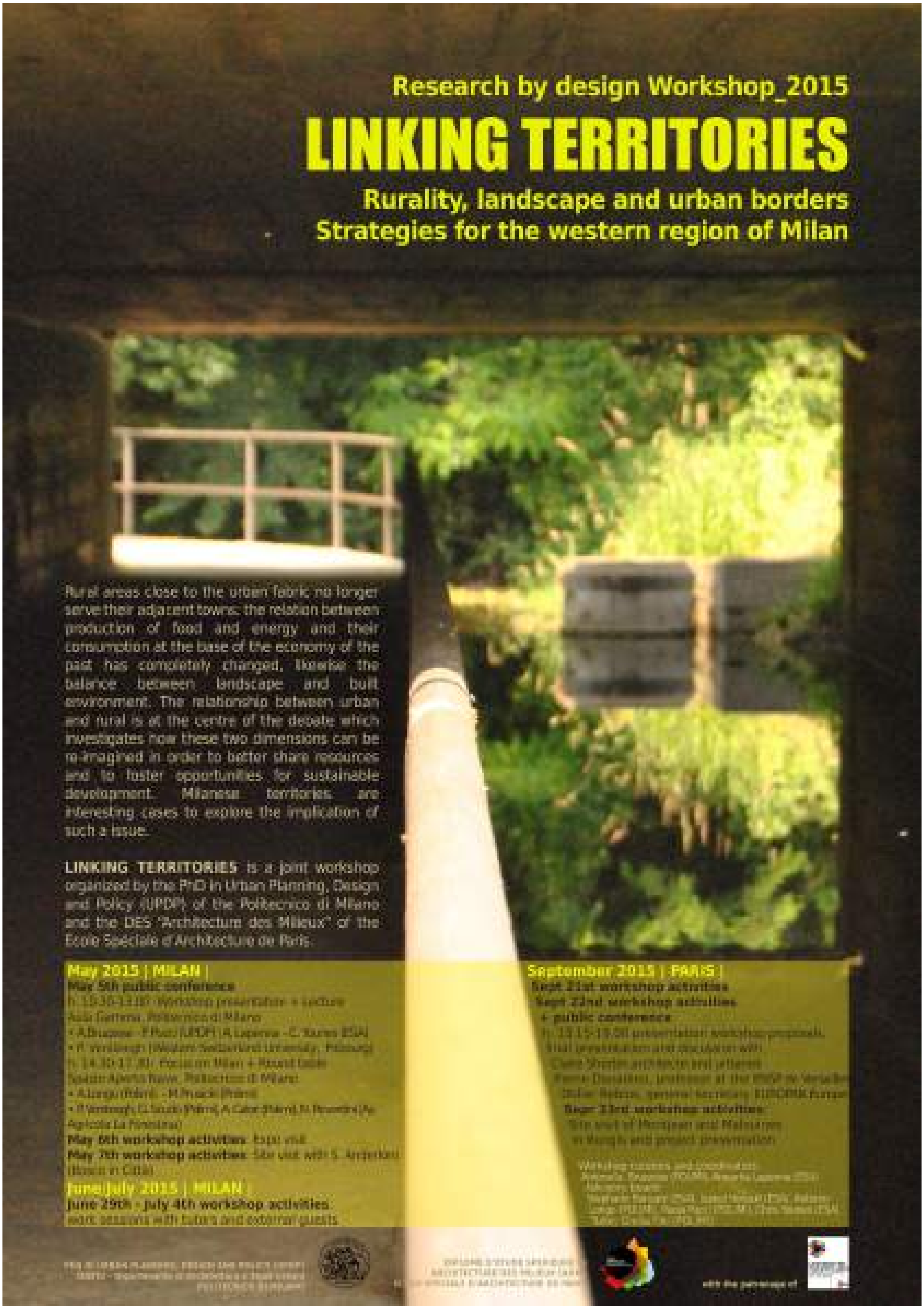
Research by design Workshop_2015
LINKING TERRITORIES
Rurality, landscape and urban borders
Strategies for the western region of Milan
Rural areas close to the urban fabric no longer serve their adjacent towns: the relation between production of food and energy and their consumption at the base of the economy of the past has completely changed, likewise the balance between landscape and built environment. The relationship between urban and rural is at the centre of the debate which investigates how these two dimensions can be re-imagined in order to better share resources and to foster opportunities for sustainable development. Milanese territories are interesting cases to explore the implication of such a issue.
LINKING TERRITORIES is a joint workshop organized by the PhD in Urban Planning, Design and Policy (UPDP) of the Politecnico di Milano and the DES "Architecture des Milieux" of the Ecole Spéciale d'Architecture de Paris.
May 2015 | MILAN |
May 5th public conference
May 6th workshop activities
May 7th workshop activities
June/July 2015 | MILAN |
June 29th - July 4th workshop activities
work sessions with tutors and external guests
September 2015 | PARIS |
Sept 21st workshop activities
Sept 22nd workshop activities
+ public conference
Sept 23rd workshop activities
with the patronage of

This book collects the outcomes of the workshop "Linking territories. Rurality, landscape and urban borders" conjointly organised by the PhD course in Urban Planning, Design and Policy (UPDP) at the Politecnico di Milano and the Post-Master "Architecture des Milieux" of the Ecole Spéciale d'Architecture de Paris. The workshop has had a double aim: to widen the view on the relationship between urban and rural areas, by involving different groups of research and practice, and to define experimental proposals able to imagine new spaces for the co-habitation of urban and rural ways of living, in the end redefining the concept of rurality and its relation with the urban condition.

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