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How can we deal with the contemporary places and spaces of new industries and productions? A planner's perspective

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Abstract

This paper is concerned with developing a better understanding of the dynamics that affect the relationship between industries and their geographical and spatial context at different scale in the XXI century. It shows the peculiar point of view of a planner with a focus on space and place in building the new post-crisis economic landscape. The paper states that the changing patterns of places and space of industries are a good perspective to observe – and also to criticize – the dominant narratives "at work": global city-regions (Sassen 1991), space of flows (Castells 1996), creative cities (Florida 2002; Landry 2000, Evans 2009, Scott 2010), and creative industries and clusters (Comunian et al., 2010). Starting from etherogeneous italian case studies – a post industrial district, a creative cluster, an urban fashion district, etc. – it seeks to understand also and the ways in which the territories of industries and economic production are studied and represented in urban research, and to some extent in popular discourse.

1. New Italian territories

This paper deals with four questions:

- Why is crucial to talk about productive areas and settlements?
- What are "productive" settlements in contemporary cities and territories?
- How do cities and territories change?
- What are their contemporary materials and how can we project them?

In particular this paper is organised considering these main issues:

- description and interpretation of deep changes in the traditional European landscapes and territorial organisation based on the city-country nexus, and emergence of new complex urban and territorial patterns;
- analysis of territorial patterns for productive settlements;
- problems and dimensions of contemporary planning and design practices in the perspective of the re-composition of contemporary cities and territories in the context of shrinkage phenomenon and global environmental change.

The productive[1] sector has changed in the last twenty years and the current financial and economic crisis is reconfiguring the relationship between state and capital, production and territories, seemingly questioning some of the assumptions made about the nature and processes of globalization, especially its territoriality (Agnew 1994, Paasi 2003).
The table 1 highlights the crucial points of change from manufacturing industry to new productions. It underlines characters of spatial differences and of cycle production suggested from important scholars in the field of economic geography and sociology (Castells 1996; Scott 1988).

Tab. 1

Fordist industry	**Post fordist or "new" production**
Homogeneous and standard production	Product diversification, knowledge and creative economy
Uniformity, standardization	Flexible production
Stock of goods	Whithout stock of goods
Founded on resources	Founded on demand
Distincted from tertiary sector	Integrated with tertiary sector
Location: big size, homogeneous buildings, lots, and plots	Location: fitted to re-use, and to vertical buildings
Hard infrastructure	Networks and clusters
Pollution	Sustainability

[1] I'd rather use the term "production" than "industry". The word "production" emphasizes the evolution and the transfomation of the secondary sector, dued to high technology innovation.

Each one of the points of the scheme described above (tab. 1) is infused with a particular utopianism of spatial form and of social processes, that when exposed reveals not only the prevailing collective imagination about ideal transformation, but also about the imagined (or unimagined) possibilities for change in production sectors.

We must not forget that in response to the increasing challenges posed by industrialisation, from the beginning of the 20th century, urban planning began to seek the separation of residential from industrial settlements as this offered better living conditions.

Within such districts, technological change led to increasingly horizontalised industrial lay-outs, which together constitute the typical characteristics of present-day industrial areas. However, this organisation of our manufacturing activities produced side effects, which have come to be seen as problematic in more recent decades. For most people, industrial areas became a kind of "no-go zone", desert districts after the working day and not deemed worthy of any comfort,or urban design intervention.

Castells (1989) argues that city regions have become the main points of reference in a globalization and knowledge-driven new spatial pattern. This involves dynamic, continuos change, reduced importance of adminsitrative entities, variable cooperative arrangements as drivers of economic and political spatialities, and a growing reliance on economical – institutional networks and clusters. As in much of this literature on spaces of flows, the economy was seen as the crucial and "natural" driver of spatial organization. In addition Sassen (1991) stressed the dominant crucial role of cities by pointing to their "new strategic role" in economic development. But how are these remaining spaces in between?

The past decades have witnessed an increasing body of basic and applied research in the fields of urban planning and urban studies, generated by universities and think tanks on two specific focus: public residential settlements and urban neighbourhoods. The changing spatial patterns of industrial and productive settlements did not have a same significant and selective body of research in literature. There is a field research's on location of creative industries (Comunian *et. al*), but this is not enough because the result is a reinforced inequality in opportunities, with continued discriminatory localized differentiation between cities "winners" and marginal territories (or diffused cities) "losers".

The present paper argues that it is time to rethink the geographies of urban and regional theory. Much of the theoretical work on city-regions is firmly located in the urban experience (in particular of North America and Western Europe). Following Roy (2009), it is time to blast open theoretical geographies, to produce a new set of concepts in the crucible of a new

repertoire of cities and territories. In putting forward such an argument, the paper suggests a rather paradoxical combination of specificity and generalizability: that theories have to be produced in place (and it matters where they are produced), but that they can then be appropriated, borrowed, and remapped.

The European urban system is undergoing process of radical transformation and restructuring, not only for the point of view of productive sectors. Concentration and dispersion are the two common ways in which settlements are organized. Many of the concepts that led to the foundation of the industrial city appear to be in dissolution and the first important sphere of dissolution regards the metaphor of the functional city: in the contemporary territories identification of the various functional zones no longer reflects its real working.

2. Different patterns (old and new) of industrial and productive areas coexist inside italian territories

The aim of this section is to summarize the preliminary results of an open research project. The purpose of the study was to establish an evaluation framework about old and new productive settlements, in Italian territories. As have mentioned in the previous paragraphs, the state of the empirical evidence on the patterns of Italian productive territories is quite unsatisfactory: this has been my starting point, while my aim has been to produce not only specific assessment results, but general reflections on how to evaluate the shifting processes in which productive settlements are involved.

The study has started in 2010 in the Department of Architecture and Planning (Milan Polytechnic), to explore issues and opportunities that arise out of several questions about contemporary Italian productive territories.

Taking a closer look at the contemporary Italian productive territories, we found several etherogeneous landscapes, where old and new patterns coexist. The 21st-century metropolis and sprawl territory are caleidoscopes. They shift shape and size; margins become centres; centres become frontiers; regions become cities, and this more clear if we foucused on productive landscapes. This review is a sort of “atlas”, and it should be understood therefore as an experimental investigation of possibilities, based on exploration and serendipity, rather than on a prescriptive and normative dimension, where what matters is the journey, rather than the point of arrival.

Fig. 1. Sesto San Giovanni. The brownfield of a huge steel industry in North Milan (Falck area).

Fig. 2 Via Mecenate, Milan. A dense mixité of small firms, vacant buildings, commercial, logistic settlements, and residential units inside the compact city.

Fig. 3. San Giuliano Milanese. An old small and medium enterprises area in traditonal sector transformed in a big logistic platform inside the boundaries of a rural park in the South East of Milan.

Fig. 4. Prato. The invisible tranformation of an historical textile district of Tuscan SME in a network of international Chinese clothing enterprises.

Fig. 5. Arzignano in Veneto Region, is the most important leather tanning Italian industrial district: in 2007 the municipality made the 0,1% of GDP. The high pollution dued to the leather work process has transformed the production cycle in a more sustainable way.

Fig. 6. Savona/Tortona area in Milan is an urban post industrial district. It regards the concentration of fashion and creative cluster in an historical neighbourhood of Milan.

This limited number of imagines underlines the variety of tranformations: from fordism to postfordism to new productions. But there are also other "immaterial" changes: for example there are cluster or network districts, a new organizative "population", or the coworking phenomenon. These are all matters with urban and regional studies have to deal with.

3. Attempts to suggest a variety of productive settlements

In European and American countries there are other studies and experiences that had tried to deal with the topic of productive settlements, going beyond traditional interpretation grid.
For example, we have:

- **Business area, businness park, sectors d'activitat econòmica**. This category have reinterpreted the classical definition of "producion activity". The Generalitat de Catalunya, thanks to its Unit Incasol, has also compiled an handbook with a large body of evidence that suggests examples of industrial intensification and mixed use. It shows how the creation of mixed use districts or intensified industrial areas can be achieved in practice. Depending on the circumstances of each location, different combinations of typologies, principles and strategies can be applied to achieve area-specific objectives (AA. VV. 2007).
- **Industry in the City.** To this aim a research was commissioned by the London Development Agency (2006) and the Greater London Authority to explore the issues and opportunities that arise out of the question of how industrial activities should best be accommodated in the contemporary city . In this context, new approaches to the physical accommodation of industrial activities are required, as traditional development patterns are unsustainable. The crucial question is increasingly significant for future development. The primary assumption of this research was the importance of retaining productive non-residential uses alongside the creation of a good living environment. The study aims to demonstrate that London's strategy requirement to retain a significant industrial capacity can be resolved through innovative design solutions. The research identifyes seventeen principles, based on a wide-ranging analysis of examples of intensification and mixed use. These strategies, closely interlinked, should be seen as the essential 'good ideas' for building typologies, planning principles and urban design strategies.

- **A repertoire of technical handbooks.** In the American literature there are a number of studies focused on productive settlements promoted by Urban Land Institute, in particular Frej, Gause (2001), Yap, Curc (2003), Beyard (1988), AA. VV. (2003).
- **Work areas.** ThIs concept has been formulated by CABE, Commission for Architecture and the Built Environment (2005). This survey has given a detailed description of the change in industrial spaces, with a thorough analysis of a number of best practice and experiences in the British context.

4. New territorial matters

To understand the previous questions we have to pay attention at new matters whithin which contemporary cities, and territories are involved:

- Shrinkage processes;
- A new concept of "growth";
- Climate change (e.g. global warming, healt urban island effect).

We can look in depth at these tasks also in the industrial and in productive areas and in work spaces.

4.1 From shrinking cities to shrinking territories. A pattern of shrinkage in Italy, after the 2008-2011 economic crisis?

"Shrinking city" is a concept suggested by Oswalt (2006). Only a few years ago, shrinkage was a taboo subject in Europe, and systematically disregarded as a dominant development trend in specific areas. A shrinking city is characterized by economic decline and – as a consequence – the transformation of urban areas.

Shrinking cities contradict the image, familiar since the Industrial Revolution, of the "boomtown", a dense, big city characterized by constant economic and demographic growth. Shrinking cities spur a reconsideration not only of traditional ideas of the European city, but also of the future development of urban worlds.

In Europe there an important example in former East Germany, where the breakdown of the state-directed economy caused economic decline, industrial regression, and high unemployment rates. Due to out-migration and decreasing birth rates, the cities lost residents. As a consequence, too many housing, warehouses, and office vacancies as well as

infrastructure oversupplies plagued the cities. The drastic changes in cities caused by shrinkage thus present not only an economic and social, but also a planning challenge.

In the United States, shrinkage can either be part of post-industrial transformations related to the decline of the manufacturing industry (e.g Ford industry in Detroit), or it can be triggered by economic changes in the so-called "post industrial transformations of a second generation" within the high tech industry (e.g. the dot-com bust).

Fig.7, 8 Detroit, before and after the decline of the car industry.

In Italy the situation is quiet different. We are in front of a different tipology of shrinkage: the decline of the typical Italian SME's industrial districts. Features characterizing Italian districts are articulate in several exhaustive studies (e.g. Piore Sabel 1984; Sforzi 1989; Garofoli, Scott 2007) Italian industrial districts are often the result of resilient cultures, organized politically on the basis of long standing commmunities. Italian industrial districts are now under the pressure of the international crisis, but also their problems stem from the results of thier own decisions such as delocalization. low investment in education and skills, human capital and innovation techology. Despite intensive research, the patterns and the landscape of productive settlements remain poorly understood.

This tipology of diffused shrinkage is more invisible, because it's a sort of urban and territorial perforation, a sprawl shrinkage similar to a "moth - holes", concerning with productive settlements zones outside city centres.

Urban and territorial shrinking can hardly be affected by planning, and it brings numerous problems. New types of cities and territories arise; we do not yet have ways of thinking or of using their specific character.

Fig. 9, 10 Old and new vacant productive buildings (textile and food enterprises) in North West Milanese urban region.

Fig. 11 The shrinkage of historical industrial district of glasses in Veneto Region (Cadore).

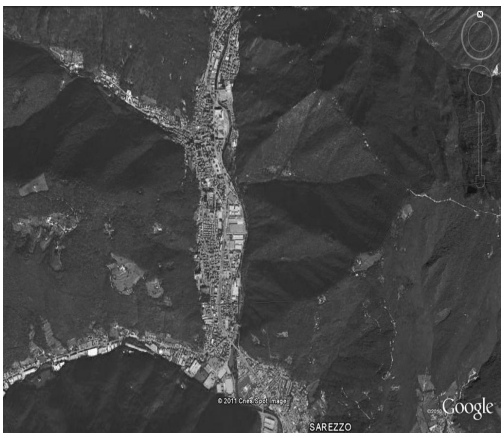

Fig. 12 The high density decline of steel and weaponry industrial district in Lombardy Region (Valtrompia). The image shows the land consumption dued to vacant warehouses, but also the abandoned mountain landscape**.**

4.2 A new concept of growth

The concept of growth has dominated thinking in modern societes; shrinkage has been viewed as an accident and exception. In future, however, a culture ad a planning of shrinkage is set to develop. According to Beauregard (2003), one of the very few planners investigating shrinking cities in the U.S., a focus on urban population losses and their consequences would provide a counterpart to the literature on urban growth "model".

In future shrinkage maybe will be considered as normal, a process of development as growth. It will lose its stigma and come to be seen as a scenario that has advantages as well as disadvantages and that leads to distinct forms of renewal and change.

In the discourses on the city in the USA the shift in terminology away from "urban decay" and "urban decline" towards "shrinking cities" an to "shrinking smart" (Pallagst *et al.* 2009) How can these challenges become project tools for sustainable planning? Urban planning and architecture in shrinking cities face new tasks through a reversal approach: whereas until now construction has been seen as the goal of architectural/urban planning action, here it is the starting point.

This shrinking phase could maybe the first opportunity to rethink also the perspective of planning field. Drosscape[2], abandoned productive settlements could be the starting point for a research oriented to find new tools of a different urbanism. A report performed by London Development Agency (2006) has underlined the role of time: sustainable development requires flexible and generic building types that could be adapted by future uses and users and that can adjust to changing circumstances. The advantage of such buildings is already felt by many of those who use a house as an office, a former factory as an apartment, or a former bus garage as workshop. New flexible buildings can be conceived in various sizes, types and forms to be used for various purposes. In particular, such buildings can be conceived within a transitional strategy, this creates the long-term possibility of introducing housing to an industrial area where it is currently unsuitable.

4.3 Climate change: a planning issues?

The exhaustion of oil wells and other fossil energy sources, as well as climate change, will decisively influence global settlement development in the 21st century. Climate change, with its heterogeneous effects, will be a new parameter of the development of settlements.

While a large part of existing settlement structures will be only trivially and in part even favorably influenced by climate change, a large number of sites will be greatly impaired and in part existentially threatened by heterogeneous climate effects: among the causes will be a lack of drinking water (especially in the arid regions of the South), the danger of flooding in coastal regions, the thawing of the permafrost in northern zones, the loss of snow and ice in

[2] Drosscape is a key concept suggested by an American scholar (Alan Berger, 2006). Drosscapes are the inevitable wasted landscapes within urbanized areas that eternally elude the overly controlled parameters and the scripted programming elements that designers are charged with creating in their projects. Berger introduces and explains the ways in which contemporary modes of industrial production contribute to formation of waste landscapes.

alpine tourism sites (high mountains), etc. Evidence of global warming, toxic contamination of residential water and air, and health effects to multiple species demonstrate how environmental compliance is no longer enough.

The notion that economic development must be sustainable is a "mantra", a pervasive view among economic and community development practitioners. As a consequence, a growing number of firms, however, have begun to incorporate more intensive social and environmental improvement standards into their operations.

Businesses and communities alike now realize that conventional "end-of-pipe" pollution treatments that redirect or sequester waste and pollution are neither ecologically nor economically viable. Eco-industrial development adds value to businesses and communities by optimizing the use of energy, materials, and community resources. While it draws from pollution prevention approaches focusing on the efficiency of individual firms, its unique contribution is its emphasis on inter-firm resource exchange linkages.

In the so-called eco-industrial park, what was formerly considered waste can be used as raw materials for another product or firm. This "closing of the loop" results in the conservation of natural resources and lower disposal and production costs.

Not all studies agree that closing the loop of production is a sufficient remedy to environmental degradation. A number of scholars (Potts Carr 1998; Vermeulen, de Walle 2004) have expressed a concern that byproduct exchange may encourage continued reliance on toxic materials and discourage technical innovation as companies invest in exchange infrastructure and customer-supplier relationships.

The figures 13 and 14 show anonymous warehouses common in each Italian industrial district. These images underline the low abitability and comfort of these places and the strict linkage with the climate change matter. The areas are internally subdivided by a regular secondary network, bordering on open spaces which are often empty. These contexts are the worst sites for life. There are not trees or vegetation, the pavements, the open space, and the walls are impervious. Impermeable pavements have not pores or openings that allow water to pass through the surface and percolate through the existing subsoil. They don't allow habitats such a complex mosaic, structurally diverse and with flower-rich grasslands and vegetation. They don't support habitats for invertebrate groups. On the contrary, green roofs, cool and permeable pavements, permeable open spaces are all key project tools that can mitigate urban heat islands. The benefits include:

- Reduced energy use;
- Reduced air pollution and greenhouse gas emissions;

- Improved human health and comfort;
- Filters silt, pollutants and debris;
- Enhanced stormwater management and water quality;
- Improved quality of life.

Fig. 13, 14 Widespread warehouses in whichever Italian industrial district.

According to Viganò (2001) an innovative landscape and environmental policy cannot be restricted to the protection and conservation of a certain number of contexts with particular aesthetic and natural prestige. It is my contention that it could be aimed to much more ambitious objectives. The porous carachters of the "diffused" city (or urban sprawl) presents, in any case, play a critical role to emphasize the development of biodiversity and expansion of natural habitat.

The urban planning is able to deal with historical industrial landscape and their decline (Boeri 1988). Their vacant old buildings in the dense city centre open to big, flagship urban project, such as Bicocca in Milan (fig. 15, 16,17). But when we set out to investigate the phenomena of soft shrinking or the ageing of more recent warehouses of industrial district, we have to face major problems: lack of tools and narrative defect. These matters confirm again the necessity to gain knowledge of contemporary productive landscape.

Fig. 15, 16, 17 Milan, Bicocca area around 1920 (with Pirelli and Breda industrial buildings), 1980, and today (one's of Europe most innovative academic/industrial district).

5. Conclusions: productive settlements as new centralities

I have investigated impacts of the productive innovation and the changing patterns of productive territories, stretching the familiar boundaries of what currently constitutes industrial spaces and starting from the common grounds of the Italian and international literature. This study was especially performed to determine the role of urbanism approach in planning productive settlements, and to deal with strong path-dependency and shrinking processes in different urban and sprawl productive contexts.

I have had three main objectives:

- corroborating the debate on Italian productive landscapes, starting from the acknowledgment that after a lively start up in a recent past (Munarin, Tosi 2001, Fossa 2002), the current situation is more fragile. In addition local actors, leaders, and promoters don't have a shared common framework to understand and assess their contexts and their experiences;
- strengthening the role of project tools and landscape design, and improving the research on what new project tools about productive settlements as new centralities are, how they work and what are the challenging dimensions;
- starting from a place-oriented approach, defining a study protocol that supports local institutions, small and medium firms, and all the actors involved, to share and gain knowledge of an assessment background about past and open experiences.

Finally, the preliminary results of this investigation lead me to the conclusion that future research on productive settlements are needed to shed more light on the linkages with further main issues:

- crucial changes in contemporary territories in the perspective of the new relationships between spatial organisation and socio-economic dimensions;
- the spatial dynamics of Italian territories in connection with the long run development process;
- socio-spatial phenomena in contemporary city and territories (mobility, pluralisation of spatial practices, conflicts).

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