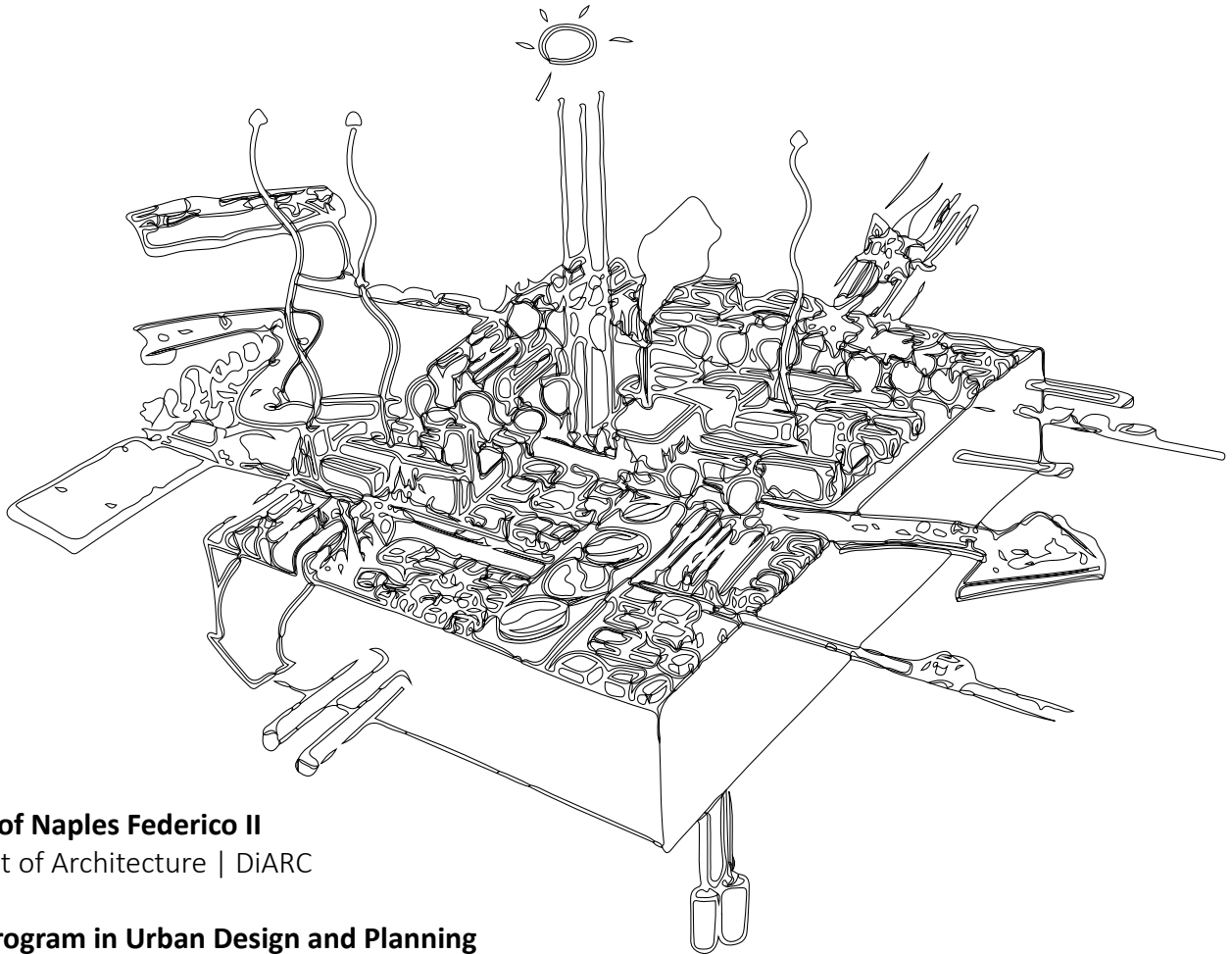


REVERSE LAND

Wasted Landscapes as a resource
to re-cycle contemporary cities



University of Naples Federico II

Department of Architecture | DiARC

Doctoral Program in Urban Design and Planning

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PhD Candidate Libera Amenta (XVII cycle)

To my family

In the cover page:

Author's elaboration of the graph:
'Urban Metabolism. An introduction to urban nature' IABR (2014)

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Abstract

This research presents REVERSE LAND as a way to add to the definition of 'waste' to include 'Wasted Landscapes' (WL). In contemporary territories, different kinds of WL are in evidence, such as brownfields, derelict lands, drosscapes, polluted industrial landscapes, terrain vague, vacant land, friches, interscapes, underutilised areas, 'in-between' surfaces left over by the dominant economic forces of urbanisation, abandoned and/or contaminated sites, degraded and interstitial entities. WL can be open spaces as well as constructed objects such as, buildings or infrastructures at the end of their life-cycle. WL are considered to be problematic but can also be viewed as a starting point with the potential for future re-cycling of contemporary European territories.

Keywords:

Wasted Landscapes, contemporary cities, re-cycle,
Campania Region, Randstad Conurbation

REVERSE LAND is about residual, abandoned, uncultivated, unused landscapes (for example, former agricultural and industrial areas, urban and peri-urban discarded spaces, disused infrastructures, etc.).

REVERSE LAND considers low density territories as reverse landscapes and uncertain spaces that need re-designing and re-planning in order to be understood and transformed.

REVERSE LAND works with WL that have emerged due to the two simultaneous processes of low density urbanisation and urban shrinkage of contemporary cities and are regarded as places in need of transformation, change and re-invention.

This research explains how strategies, actors, resources and projects can effectively contribute to an innovative and ecological approach to working with WL.



INTRODUCTION

"Scarcity is the mother of invention [...] shortages don't have to constrain creativity: quite the contrary!" (Designing scarcity, 2014).

Speaking about 'waste' does not only refer to material waste produced by cities, such as tons of garbage, sewage sludge, demolition and construction waste, soil from excavations and others useless materials produced in contemporary cities as these residual materials need to be recycled or reused in any case. In our understanding, the concept of waste is broader and can be extended to include sections of discarded landscapes. In contemporary territories, different kinds of neglected areas are in evidence, such as brownfields, derelict lands, drosscapes, polluted industrial landscapes, terrain vague, vacant land, friches, interscapes, under utilised areas, 'in-between' surfaces left over by the dominant economic forces of urbanisation, abandoned and/or contaminated sites, degraded and interstitial entities, etc.

This research presents *REVERSE LAND* as a way to add to the definition of 'waste' to include 'Wasted Landscapes' (WL).

WL can be sections of open spaces or buildings, at the end of their life-cycle. In this 'suspended' status, WL offers the possibility of presenting them not simply as a problem but also as a potentiality for future urban recycling of contemporary territories. WL are the natural result of human development and urban settlement. WL derive from both old and new urbanisations, central and peripheral settlements, ranging from individual sites to entire urbanised regions, in the inner core of cities and also at their edge.

Therefore, we can assume that, in some European contexts, all contemporary cities can be affected by the presence of WL due to fluctuations in the economies of territories, over periods of time. City expansion/sprawl² and shrinkage/de-industrialisation can be regarded as major causes for the formation of WL in contemporary territories. In most cases, these two main processes take place simultaneously and they interact in a chaotic way.

This work illustrates how one of the emerging challenges for urban planners and architects is finding solutions for the problem of growing WL in contemporary cities. The large amount of WL that afflicts contemporary territories, causes a physical fragmentation of the landscape that results in several problems related to the quality of life, to the pollution of sites, to the spatial quality of the territory and to the economies of regions. WL represent a cost to society and a threat to the environment but, at the same time, they can be evaluated as a resource. The recovery and the regeneration of WL has a symbolic value for revitalising citizens' sense of belonging to places.

1 See the Exhibition *Designing scarcity*, Ontwerp en innovatie in tijden van schaarste, 28.6-30.8.2014, Het Nieuwe Instituut, Museumpark, Rotterdam.

2 For further information about low density urbanisation see Annex 1.

Looking at WL from a life-cycle approach means finding a new purpose and new meaning for contemporary territories and to give a new sense to liminal spaces changing the way we look at them. Looking at WL from a positive perspective, reversing the usual way of looking at them is an opportunity to implement a new strategy for growth in the shrinking areas.

The main goal of my work is to contribute to the understanding of how to promote the improvement of the quality of life in contemporary cities, without effecting the capacity of Earth's finite resources, through the recycling process in urbanised contexts.

A multidisciplinary approach is needed to have a comprehensive understanding of contemporary cities. To this extent, the research will focus on landscape and urban regeneration issues in addition to, the development of ecological, environmental and economic studies, but the latter not in an exhaustive way.

REVERSE LAND intends to give new purpose to discarded areas in a metropolitan context, reversing our way of looking at them. The aim of this research is to give more attention to these kinds of spaces that are often marginalised and forgotten about by institutions, and creating recycling networks to re-imagine them as public spaces.

This work proposes new questions and issues to stimulate discussion with respect to the subject, rather than being a demonstration of having found fixed theories or unique solutions. The iterative nature of the thesis illustrates the continuous process of research and an attempt to provide solutions to the problems that arise.

The recycling of WL, considered as a new way of looking at contemporary cities, starting with the discarded areas, without meaning and value, as resources for a different urban growth, is emerging as a new paradigm for sustainable transformations. Therefore, a main research question was formulated with the aim to verify if the consideration of the re-cycling of WL as a new paradigm for sustainable transformations of contemporary cities is feasible and, if so, why?

The research is articulated into three parts, considering the interpretation of and the way of working with contemporary cities, as well as the strategies to improve the quality of contemporary cities. These three parts are analysed separately using literature reviews, surveys and also quantitative and qualitative analyses.

BACKGROUND TO THE PROBLEM

“Learning from the existing landscape is a way of being revolutionary for an architect. Not the obvious way, which is to tear down Paris and begin again as Le Corbusier suggested in the 1920s, but another, more tolerant way; that is, to question how we look at things”(Venturi, 1977).

Recycling WL

The transition from the modern city to the contemporary city started in the last decades of the 19th century, with the growth without boundaries of several occidental cities. In some aspects, contemporary cities still appear to us confused, chaotic, and without a precise shape. Their configuration is not completely understandable or predictable compared with the modern city. As a consequence, urbanism should be approached differently than in the past, adapting to this new situation. The contemporary city has different characteristics in different parts of the world. For the majority of people, it seems to be a *“confused mix of heterogeneous fragments”* (Secchi, 2000: 77 - author’s translation from Italian) in which it is difficult to recognise rational principles that make it easy to understand. Nevertheless, the chaos that characterises contemporary cities is probably a new order that we still cannot understand. The contemporary city is a city made piece by piece of varying dimensions and from different ages. Some of them are neglected due to the transition from the modern to the contemporary city and due to the continuous changes in the economy that creates critical situations.

Contraction and expansion of cities, as a result of economic crisis, de-industrialisation and political change, are shaping the landscape in a very pointed way. Sections of territories, cities, buildings and infrastructures are suffering as they approach the end of their planned life-cycles and, in many cases, they are degenerating into what can be identified as WL.

Through the literature review it emerged that the idea of urban regeneration³ of misused urban areas is not new at all. It is based upon theories established in the ‘80s about the modification (modificazione in Italian) of the existing city (Gregotti, 1984;, Secchi, 1984). The new concept of recycling ‘drosscape’, began with Alan Berger’s theories, elaborated on in his book Drosscape (2006b), and following precedent theories, remarks upon the great value of what exists in urban areas and territories through the rationalisation of resources in specific contexts.

It seems to be particularly necessary to think about a way to recycle parts of contemporary cities undergoing a process of dereliction and abandonment. The concept of re-cycling is going beyond the idea of urban regeneration since it:

“defines a new context of reference, combined with values and materials of ecology, environment and landscape [...] ecological infrastructures, water, energy, drosscape, ecosystems, public spaces and urban facilities, agricultural lands: they

3 For a definition of ‘urban regeneration’ see Annex 4.

RE-

DUCE

USE

CYCLE

DESIGN

THINK

CREATE

BUILD

WRITE

PAIR

MAKE

DO

CONSIDER

IMAGINE

SEARCH

ORGANIZE

LANDSCAPING

LAUNCH

CONSTRUCT

SET

INTEGRATE

?

are urban materials to be considered as social and material resources, according to various dimensions” (Russo, 2013 - author’s translation from Italian).

WL are declining areas in contemporary cities, spaces in transition in which it is possible to experiment with adaptive, flexible and creative practices. In addition, they can represent spaces in which it is possible to test innovative urban projects through a change of paradigm⁴:

“It asks designers to consider working in the margins rather than at the and to shift the paradigm of what is considered urban design and what landscape means to urbanism and urbanization processes. It requires designers to think strategically of themselves as charged with identifying the undervalued and overlooked potentials of the urban regions within which they live and work” (Berger, 2006b: 241).

Following this viewpoint, multiscalarity and multidisciplinary are necessary ways to re-compose from an urban and ecological point of view, the contemporary territorial fragmentation that is due to the presence of a large amount of WL, very often recognisable also as functional enclaves (e.g. abandoned industrial areas) or as social and ethnic enclaves (e.g. nomad camps are very often located, on purpose, in areas recognizable as WL). As the natural and inescapable result of growth, evolution and urbanisation, WL represent the ‘dark side of change’ (Lynch, 1990) and they usually hide new opportunities for urban and landscape regeneration.

The concept of *Reverse Land* proposes that the discarded parts of cities and territories, that we define as WL, can be considered as possible resources and active parts for the design of a diverse urban growth⁵, not based any longer on urban expansions but on the re-interpretation of the existing parts of cities.

The approach is to re-imagine new life-cycles for buildings and public spaces. The recycling of the city *“makes us think about its rhythms, life cycles, metamorphoses. Recycling is not just reusing, but, if we follow the analogy with the organic world, it puts forward a new life cycle”* (Fabian, Giannotti, & Viganò, 2012). Contemporary territories need re-development in the sense of regeneration and also improvement in terms of quality of living, in all areas.

An example of a European territory in which a large amount of WL is shaping the landscape can be found in Southern Italy. This is the Campania Plain area in which WL create a kind of network of spaces to be recycled. The Campania Plain is one of the most problematic metropolitan areas in Southern Italy. Here problems of pollution, illegal dumping and abandonment of urban areas affect the environment. The Campania Plain is characterised by a continuous low-density conurbation, growth

4 For a definition of ‘paradigm’ see Annex 4.

5 See: Atti della XVI Conferenza Nazionale SIU - Società Italiana degli Urbanisti, URBANISTICA PER UNA DIVERSA CRESCITA, Aporie dello sviluppo, uscita dalla crisi e progetto del territorio contemporaneo, Napoli 9-10 maggio 2013.

without a definite plan. In this territory, very often settlements are developed without any accordance with the existing strategies for the area.

The main idea is to understand that parts of territories become wasted due to flawed human behaviours, and, as such, it should be re-generated and reclaimed. This phenomenon commonly occurs in the peri-urban⁶ spaces. Frequently, peri-urban areas are connected to agricultural lands and high valued landscapes. Very often, legal and illegal landfills are located in these areas.



IN THIS PAGE:

Image source: Timmeren, A. van, Henríquez, L. (2013) *ReciproCities. A dynamic equilibrium*, p. 86.

6 For a definition of 'peri-urban space' see Annex 4.

PROBLEM

In many contemporary European cities, the simultaneous phenomena of the 'cities' explosion' (Fregolent, Indovina, Savino, 2005) and urban contraction generate a large amount of WL. We need new ways to understand the places in which we live now and new tools to work successfully in contemporary cities. Therefore, my work will focus on one particular aspect of contemporary cities that is represented by WL.

The diffusion of settlements in the countryside, better known as urban sprawl, is a growing phenomenon which shapes contemporary metropolitan regions all over the world. As Alan Berger asserts, referring to the American situation, cities undergoing this process of expansion are becoming less and less compact and dense.

Very often, contemporary cities appear like a palimpsest of waste and drosscape due to the low density urbanisation.

In many cases, not only in the American context but also in European countries, the process of suburbanisation is accompanied by shrinkage (Oswalt, 2006) of cities' population densities resulting in the abandonment of portions of urban areas and of a large number of constructions. These phenomena produce, together with other problems such as pollution and contamination, a high quantity of WL not compatible with the urban and the natural life-cycles.

WL are not only degenerate, disused or underutilised parts of urban settlements, but also natural elements, for instance soil and water, that are polluted or have reached a moment of crisis in their life-cycle. If we consider these urban parts or episodes as resources to be recycled we can assert that, in European metropolitan areas, there are several misused or unused spaces which need a process of reclamation, regeneration and recycling to be rehabilitated for new uses.

The recycling of material waste and the spatial and functional recycling of WL are deeply interrelated and they represent a major challenge for contemporary urban planners and architects. In many cases, waste flows influence negatively the organisation of landscapes and territories. Indeed, very often the management of waste cycles is indifferent to the structure and quality of landscapes.

In certain circumstances, it is difficult for urban designers and planners to re-imagine the organisation of urbanised areas, adapting them quickly in response to the sharp and rapid changes in the urban and regional economies, globalisation of markets, re-organisation of factories and to the quick spread of 'horizontal' urbanisation. At the same time, the extreme production of waste and the inappropriate political agenda for its management very often have a profound effect on the environment and on human health.

To that end, I aim to understand how it is possible to consider WL as a resource for new urban-recycling-processes and the development of sustainable urban environments. In addition, if we take into account that WL can also be potentially polluted spaces, the process of recycling starts very often with a phase of remediation, which in addition can represent an efficient way to prevent environmental hazards.

AIM OF THE STUDY

This research attempts to clarify why the acknowledgement of WL as a resource is a necessary approach for the re-cycling of contemporary cities towards the development of sustainable territories. The main research goal is seeing the network or the spreading presence of WL in contemporary cities as *Reverse Land*. This means an inversion of the usual way of considering the discarded parts of contemporary cities as residual, problematic and unimportant. In this research WL are recognised as a resource and not necessarily as a problem.

The main challenge is to change the perception of the non valuable, such as WL, into the valuable for new sustainable urban developments. This approach requires several basic conditions, for instance, less soil consumption, a spatial and financial rationalisation of resources, and a regeneration of the urban settlements both in a physical and in a social perspective. The aim is to identify new strategies to re-inhabit urban and peri-urban WL of contemporary territories, re-creating new life-cycles for abandoned buildings and constructions in general, or to re-designing new high quality open spaces (green and mineral) through 'recycling' techniques. From this perspective, for instance, urban farmland, parks and green infrastructures are regarded as potential factors for initiating the process of recycling of WL for better quality open spaces.

Furthermore, the research aims to underline the interplay between the theoretical definition of the problem, the analysis of urban phenomena and their spatial effects, as well as the research of reference cases. A selection of projects in the Dutch context, facing the problem of WL, have been regarded as best practice to apply in different situations.

The research compares the Neapolitan conurbation with the Randstadt in the Netherlands. It is important to highlight how the different spatial configuration of the examined territories create different spatial qualities and different kinds of WL. The Netherlands is regarded as a reference case in the understanding and managing of WL both in urban and in peri-urban spaces.

For the Campania Plain case study, the main design idea is to evaluate the re-cycling of the networks of WL as a new planning strategy for the Campanian metropolitan regions. Recycling WL means doing more with less⁷ in the current social and economic crisis and with a scarcity of environmental resources.

7 'Doing more with less' is the motto of the Green paper on energy efficiency elaborated by the European Communities, in the year 2005 with the aim to create concrete actions to make a strong push towards a re-invigorated programme promoting energy efficiency at all levels of European society. See also: Jackson, T. (2011), *Prosperità senza crescita. Economia per il pianeta reale* (2009), Edizioni Ambiente, Milano, pp.112-113.

The crisis makes it necessary for the abandoned architectural heritage, for instance, architecture that has now become superfluous or less attractive, must be reused and recycled paying particular attention to energy saving, efficiency and sustainability⁸. Soil is also a scarce and non-renewable resource to be repaired and reclaimed. Indeed, recycling also means avoiding wasting environmental resources and reducing soil consumption.

These methods of working with existing urban materials in contemporary palimpsest (Corboz, 1998) leads to a diverse growth⁹ that is not any more extensive. It can be considered a strategy for the valorisation of urbanised areas creating for them a new identity and a new sense of belonging. In this cultural context the urbanist is similar to a bricoleur, as illustrated by Claude Lévi-Strauss (*The Savage Mind*, French: *Le pensée sauvage*, 1962), that recomposes and re-organises WL and others urban materials that are available for transformation. He works with the things that are potentially useful and can be modified, through creative practices. The bricoleur faces the problem of generating different solutions and adapting them to existing situations. Very often, the materials that are usable in the context in which the bricoleur is working are irregular, anomalous, unusual and heterogeneous and they must be combined through new solutions and alternatives. The city recycles itself and its memory transforming its different layers and creating a palimpsest (Corboz, 1998).

The recycling of WL is primarily concerned with the improvement of the quality of landscapes (e.g. quality of water, soil, buildings, open public spaces, etc.). Consequently it enhances the quality of life for citizens in urban and peri-urban areas¹⁰ minimising the exposure of inhabitants to polluted areas.

8 For a definition of 'sustainability' see Annex 4.

9 See: Atti della XVI Conferenza Nazionale SIU - Società Italiana degli Urbanisti Urbanistica per una diversa crescita. Aporie dello sviluppo, uscita dalla crisi e progetto del territorio contemporaneo, Napoli 9-10 maggio 2013.

10 For a definition of 'urban space' and 'peri-urban areas' see Annex 4.

MULTIDISCIPLINARITY AND GOVERNANCE TO FILL A GAP

The recycling of WL is a complex and broad issue that involves not only urban planning and architecture but also public administrations and public opinion. Nowadays the emphasis on the theme of the 3Rs, Reduce/Reuse/Recycle, is still episodic (Angrilli, Rizzi 2014: 210). The theme of the potentiality of the recycling of WL has a restitutory value because, through this practice, new public spaces can be given back to the community. This approach to contemporary cities has unfortunately been overlooked for too long in the debate about territorial regeneration (Russo, Formato 2014: 286). But, despite that, currently it seems to be a very fertile field to conduct experimentation and research in. WL, spaces generally enclosed, interstitial or discarded, are of great interest for urbanists. WL, but also drosscape, uncultivated areas, liminal spaces, often represent the most transformable and modifiable parts of the territory (Russo, Formato 2014: 286).

A rethink about the urban growth models and development of contemporary European cities is needed. The infinite growth of cities and, at the same time, the erosion and the consumption/abandonment of portions of landscapes are phenomena carried on from the second half of the 20th century to the present day. This model of expansion of urbanised areas is not sustainable any more. The limits of growth and of environmental resources are clear and they are finite in relation to the ecological system.

In reaction to the current ecological crisis, requesting no more soil consumption due to the high number of urban and peri-urban spaces to recycle, it seems necessary to recognise a new geographical recycling of WL, which is elaborating projects for ecological and environmental regeneration. It has emerged that, this recycling technique is a very actual way to approach the problem, recovering landscapes as a strategy for contemporary projects.

If we look at the transformation of territories in the last decades, we can see that peri-urban areas are the most fragile parts of territories because they were predominantly damaged by the recent urban growth processes. Urban expansions should take into account the ecosystem's limits, reversing the idea of growth and underlining the importance of the responsibility to the environment. The production of waste is much quicker than the capacity of the environment to absorb it. The interaction between the management of waste flows and the creation of WL can influence the organisation of the territory and in particular the ecology of peri-urban areas. This is, among others, an issue of great interest for urbanists.

It is often the case that liminal and abandoned areas, such as WL, are not considered as valuable spaces by institutions (Russo 2014: XXIV). These spaces are generally ignored by policy makers and investors that do not recognise the 'beauty'

of boundaries in which soft and modifiable areas (WL) join up with the hard and compact existing city. Contemporary territories offer, for instance, industrial 'findings', discarded areas of urban diffusion and abandoned open spaces. New strategies for recycling them should be adaptive, reusing what is afflicted by technological and functional obsolescence and, if necessary, also reclaiming polluted sites in which natural characteristics are compromised.

WL are very often caused by a sectoral way of thinking about the structure of the territory.

An integrated, long term, and institutional vision for re-generating WL is missing. We must focus our attention on the metabolisms that are involved in the creation of WL, as a way of working on buildings' and territories' life-cycles in the long term. This approach requires the involvement of different disciplines at different stages.

The innovative element of the recycling strategy is that it focuses not only on cities and urban areas but also on environmental, landscape and ecological issues. These elements are inter-related in the recycling project with the aim to go beyond a sectorial organisation of territories. The new recycling project must be adaptive to the context, socially inclusive and flexible.

In other words the approach that is needed to understand, work in and improve the quality of contemporary cities is a multidisciplinary approach of different scales.

In addition, the gap that contributes negatively to the formation of WL is found in the urban planning approach and governance of cities. In many cases, the city is designed piece by piece, with a sectorial view of the territory that does not create a unique shape and results in fragmentation. In this respect the comparative study of the Dutch and Italian cases is very interesting because a duality of approach is evident:

A strong tradition in planning/absence of control is illustrated by the Dutch and Italian cases respectively.

Discarded, marginal and in-between areas very often represent strategic tools for sustainable urban regeneration.

RESEARCH APPROACH

“Doing research and writing a dissertation is an iterative process”
(Remøy, 2010: 18).

The formulation of a theoretical framework, verified through literature review, empirical design activities and the collection of examples, has been developed during a period of three years within which this research has been carried out.

Literature reviews were used to understand the structure of the contemporary city and the processes that generate its form, characteristics and configurations and the related WL. Through literature reviews, the general hypotheses were formulated and, at a later stage, they were tested through a selection of design examples in the Dutch context and through empirical design experiences in the Campanian case-study.

In addition, literature reviews were used to identify research questions and to understand the background of the problem in order to focus better on the topic and to set the scene for the empirical part of the study (Remøy, 2010: 24).

The theoretical framework on which my work is developed utilises the lens of landscape (Waldheim, 2006) to understand and design contemporary cities and it follows the urban metabolism¹¹ approach. In the following paragraphs I will explain the methodology that I have used to better describe, design and re-conceptualise WL.

The methodology developed in the dissertation is **design oriented**¹² and it follows different steps (see Table 1):

- **Understanding WL in contemporary cities** through the description of different typologies of WL, through the understanding of cycles, processes and metabolisms that generate WL and through the understanding of urban dispersion/urban shrinkage and the process of ‘metropolisation’¹³ of the territory;
- **Working with WL in contemporary cities** through planning, policies and projects analyses and through the trans-national comparison between the Dutch and the Italian cases and through the project analyses of selected Dutch examples;
- **Improving the quality of contemporary cities** through fieldwork and practical design experience in Campania Region;
- Developing **conclusions in the form of strategies**, with the aim to improve the quality of life in contemporary cities.

11 For a definition of ‘urban metabolism’ see Annex 4.

12 For further information about design disciplines as scientific activities see Annex 3: ‘Reading and designing contemporary cities’.

13 For a definition of ‘metropolisation’ see Annex 4.

Fieldwork and literature reviews have demonstrated that contemporary urban conditions require new interpretations.

In the Italian context, the comprehension of the complex dynamics of the metropolitanisation process and of its related WL is a challenge for scientific researchers. It is more than an academic question, since the understanding of these phenomena is also a practical issue for policy makers who need a deeper knowledge of this new kind of landscape to be able to work with it.

Particularly, the **Piana Campana case-study** can be considered an interesting laboratory in which to experiment with this new challenge: reusing WL as a resource in metropolitan regions. Particularly, the Campania Region research about WL¹⁴ both in the contaminated urban territories and both in the urban and peri-urban areas, highlights an urgent need to improve the quality of the environment and the quality of citizens' lives.

The existing gap between what was planned in the South of Italy (also called Mezzogiorno d'Italia - in Italian) and the real results on the ground is one of the main factors that generated the formation of WL in this territory. In particular, the research investigates the settlement phenomena in the central part of the Campania Region, between the cities of Naples and Caserta. This territory is occupied by a large low-density conurbation. It represents one of the most problematic Italian metropolitan areas.

This area is seen as environmentally unattractive and is a paradoxical and complex situation.

14 The academic research group Recycle Italy, in which I am a member of the Unity of Naples, is focusing on the issue of drosscapes in the Italian situation and in particular on new life-cycles for architecture and the infrastructure of cities and landscape. For further information see the website at the link: <http://www.recycleitaly.it/>.

On one hand, it is characterised by the presence of an extraordinary historical, archaeological and environmental heritage; on the other hand, it is plagued by a process of progressive urbanisation of the territory in a state of economic marginality and social decay, creating a large amount of WL that are shaping the territory. In that area we can recognise a network of WL that finding a solution for needs to be considered a priority in the agenda of both academics, politicians, and within administrative boundaries.

In the Campania Region a good example of Provincial Planning in which residual former agricultural lands have been taken into account as resources for urban and ecological regeneration comes from the Caserta Province. WL are distinguished in the Provincial Territorial Plan of Caserta and called 'aree negate' (PTCP Caserta, 2012). However, the municipalities belonging to the province of Caserta are not able to manage the residual spaces available for new projects and uses. This is due to the fact that, very often, these areas are found on private property and are political instruments, and an intervention for these spaces does not exist yet.

Generally, **in the Netherlands** land-use planning avoids the formation of a large amount of WL. However, some processes like the deindustrialisation, recent crisis, changes in the organisation of the economy, and obsolescence create abandonment of quite large urban parts of contemporary Dutch cities (e.g. Stadshavens in Rotterdam and Binckhorst in Den Haag). How do Dutch designers and planners solve the problem of emerging WL in the territory? What are the solutions they can provide to the formation of WL? What are the projects developed for the purpose of recycling WL?

OUTLINE: A WALK THROUGH THE THESIS

In order to achieve the aims of the study and to better understand the proposed problems, the research investigates the **main research question**:

‘Can the recycling of WL be considered as a new paradigm for sustainable transformations of contemporary cities? If so, why?’

The research is structured into three sections; each one is related to a specific research question about the understanding of WL in contemporary cities; about the different ways of working with WL in the European context, particularly referring to the Dutch case and about different strategies that are possible for improving the spatial quality of contemporary territories and to improve the quality of life for the inhabitants, through the re-cycling of WL. With the purpose of answering the central research question, the dissertation is built around three sub-questions, each of them has been elaborated on accordingly in the different chapters:

1. *‘How the process of ‘metropolisation’ of the territory is related to the formation of Wasted Landscapes?’*
2. *‘How Dutch land use planning policy prevents the formation of large amounts of Wasted Landscapes recycle them, if any?’*
3. *‘What are the major causes of the formation of Wasted Landscapes in the Campania Region and what are possible design solutions to recycle them?’*

Thesis structure

The thesis is divided into a total of five parts, the introduction, three main chapters and the conclusions.

The **INTRODUCTION** concerns the presentation of the problems of resource scarcity, urban decline and WL, giving a first definition of Wasted Landscapes understood as discarded parts of the territory due to urban metabolism and urban dynamics. In this section, the basic research question, the sub-questions and the research methodology, that is design-oriented, are provided.

CHAPTER I of the thesis is called *‘Understanding Wasted Landscape in contemporary cities’*. It concerns the theoretical investigation of the ‘metropolisation’ phenomenon in Europe and in Italy particularly. It is also about the role of WL in contemporary cities and grouping them by diverse classifications. The chapter is organised into five sections. The first part is about the recognition of diverse typologies of WL, emerging in contemporary cities, through the lens of landscape. The second part delineates briefly cycles, processes and metabolisms that generate WL in contemporary territories. The third part is about the two main causes of the formation

of WL: the shrinking phenomenon and urban dispersion in rural areas, explaining why WL represent the principle resource for a different type of growth for cities and territories in the future. It is also about the evolution of landscapes undergoing a deindustrialisation process and shrinking and the progressive abandonment of urban cores and of several peri-urban areas. It brings us to a new concept of periphery that is no longer referred to as the physical distance from the urban core, rather it is related to the loss of meaning of some areas in the urban scene. The fourth part is about the process of 'metropolisation' of the territory and the consequent formation of WL. In the last part conclusions are explained showing that WL are affecting different parts of the territory, both urban and rural areas, and that landscape can be considered as a medium through which to re-interpret them.

CHAPTER II is titled '*Working with Wasted Landscapes in contemporary cities*' and it explains why in the Netherlands the phenomenon of WL is not so diffused as in Italy and what is the Dutch approach to re-cycling them, if they exist. The Dutch case is framed as a good reference case in working with these marginal areas. For that purpose a series of design interventions in the Dutch context are described stimulating the consideration of recycling WL as a sustainable design strategy. The chapter is organised into five parts. In the first part, the comparison between the Neapolitan and Randstadt conurbation is provided. In the second part, Dutch hybrid landscapes are presented as new entities in-between urban and rural in character. In the third section, a brief outline of Dutch land use planning is presented to explain how politics prevent or avoid the formation of WL in the Netherlands. In the fourth section, a selection of examples of re-cycling WL is examined to show the strategies, actors and resources involved in these projects. In the fifth part WL are presented, in conclusion, as places with a great propensity to be re-adapted and transformed, with the characteristics of the specific local situation in which they can be found.

CHAPTER III, called '*Improving the quality of contemporary cities*', attempts to describe, map and design the large amount of WL in the Campania Region, one of the most problematic regions in southern Italy. It covers the case-study analysis explaining the current way of approaching WL in the Campania Region. The work focuses on two different approaches in solving two diverse situations in Campania. It is divided into five sections. In the first part, it is highlighted that WL in the Campania Region are mostly caused by social, governmental and legal problems. On the other hand the Campanian territory is presented as a porous and resilient territory in which the re-cycling of WL represent an innovative way to reactivate its metabolism. In the second part, the Campania Plain as a case-study is presented with a particular focus on the case-study of Casaluce. In the third part, the case study of Casaluce, a small town belonging to the territory of Aversa, in which legal problems, uncontrolled diffusion of settlements and pollution are overlapping, generating different kinds of WL. In the fourth part, the East Naples case study, considered the emblem of post-oil *petroleumscape*, is explained. The fifth part shows that in this chapter, through

the two case studies, the contemporary approach to WL in the Campania Region is explained, identifying the possible design solutions to recycle them. The general aim of the chapter is to identify issues and potentialities of WL that could be re-used, modified and re-shaped as active parts for urban metabolism.

The **CONCLUSIONS** show that the re-cycling of WL is a completely new way to look at contemporary cities starting with the discarded and worthless areas, considering them as a new paradigm for sustainable transformations.

The iterative nature of the thesis illustrates the continuous process of the research and an attempt to provide solutions for the problems that emerge.

Reverse land

Wasted landscapes as a resource
to re-cycle contemporary cities

Research approach

INTRODUCTORY STUDY

Background to the problem
Problem statement
Multidisciplinary and governance as a gap
Research Questions

CHAPTER I

UNDERSTANDING WL IN CONTEMPORARY CITIES

What are Wasted Landscapes?
Cycles, processes, metabolisms
Urban expansion / urban shrinkage
From dispersion to metropolization

PRACTICE

the determination of problem solutions

CHAPTER II

WORKING WITH WL IN CONTEMPORARY CITIES

Randstad Conurbation A SELECTION OF EXAMPLES (i)
Recycling Dutch WL

other possible reference case (ii)
other possible reference case (iii)

EVALUATION

CONCLUSIONS

research as an iterative process

PROBLEM ANALYSIS
*defining the problematic
situation*

THEORY
formulating the research problem

**BODY OF KNOWLEDGE
AND STATE OF ART**

**LITERATURE REVIEWED
MAIN TOPICS**

topic 1

Urban dispersion/shrinking cities
and metropolization

topic 2

The emerging of the new category
of peri-urban spaces

topic 3

Wasted Landscapes as regeneration elements
to avoid the soil consumption
and improve the urban metabolism

**CHAPTER III
IMPROVE THE QUALITY
OF CONTEMPORARY CITIES**

Campania Region CASE STUDY
Recycling WL in the Campania Region
Casaluce (E) and EAST Naples case studies

CHAPTER I

UNDERSTANDING WASTED LANDSCAPES IN CONTEMPORARY CITIES

In most contemporary Western European countries, all metropolitan areas could be affected by the presence of WL, due to fluctuations in the economical structure of territories occurring through the years, such as the globalisation of markets, the re-organisation of factories that are decreasing in size and becoming dispersed and the quick spread of 'horizontal' urbanisations.

This chapter provides theoretical studies in order to understand the general roots of urban decline. Different reasons why certain urban and peri-urban areas became abandoned and the processes that generate urban and environmental problems, both from an aesthetical and a physical point of view as well as from a socio-economic aspect, are examined. In addition, it is about the definition of typologies of WL using the landscape as a medium, through which to look at contemporary territories, and as an infrastructure for illustrating spatial recycling techniques. The aim of the current chapter is also to answer the following key research question: *'How is the process of 'metropolisation' of the territory related to the formation of WL and what are the reflections in inner cities and in peri-urban spaces?'* For the purpose of having a better understanding about how to deal with WL in metropolitan areas, firstly we must identify the diverse causes of their formation and describe their characteristics, answering the following question:

'Why accumulations of portions of contemporary territories are in decline?'

WL that are emerging in our territories do need to be categorised. It is necessary to explain what is meant by WL, since the concepts of WL and their re-cycling are sometimes subjective. Indeed these concepts are not based on uniform definitions and on homogeneous value systems. In order to identify WL as resources for the regeneration of urbanised territories, it is necessary to recognise what is the value and the implications of recycling them for design and planning activities in contemporary cities. The point of view of different authors has been analysed in order to give WL a synthetic definition.

The chapter is organised into five sections. **The first part** is about the individualisation of different typologies of WL emerging in contemporary cities, through the lens of landscape. **The second part** briefly outlines of the cycles, processes

and metabolisms that generate WL in contemporary territories. **The third part** is about the two major causes of the formation of WL: the shrinking city¹⁵ phenomenon and the dispersion of the settlements in the countryside, explaining why WL represent the major resource for future re-developments of cities and territories. Particularly, it proposes urban expansion and urban shrinkage as major causes of the formation of WL in contemporary territories; it is also about the evolution of landscapes undergoing deindustrialisation and shrinkage phenomenon and the process of dereliction in the inner cities. In addition, it is about the general trend observed in the peri-urban areas, giving a new definition of the concept of periphery. **The fourth part** concerns the 'metropolisation' phenomenon and the related formation of WL. In the fifth, that represents the conclusions of the Chapter I, residual spaces in contemporary European territory are understood as a specific kind of waste that should be studied, categorised through specific typologies and re-cycled, as an efficient way to manage the scarce environmental resources of contemporary cities.

15

The term 'shrinking city' was coined by German architect Philipp Oswalt in 2005.

1.1 What are Wasted Landscapes?

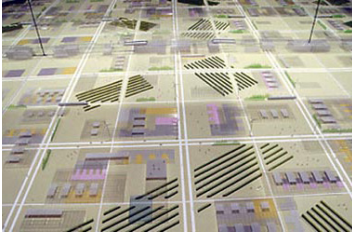
As asserted previously, even if waste flows can strongly influence the structure of landscapes, furthermore, it is necessary to go beyond the concept of material waste, considering residual spaces in contemporary European territories as a specific kind of waste: WL. For this reason a classification is required of polluted soil, other urban and peri-urban areas, and buildings that need to be recycled since they are disused or underutilised.

Starting from Alan Berger's definition of 'waste landscapes', elaborated on in his book *Drosscape, Wasting land in urban America (2006)*, and focusing on the Naples metropolitan area case-study it is possible to define a categorisation of different typologies of WL that can be found in contemporary urbanised areas. This classification has also been verified in other European contexts, particularly in the Netherlands, through a selection of diverse projects relating to WL.

WL are brownfields, derelict lands, drosscapes, polluted industrial landscapes, terrain vague, vacant land, friches, interscapes, under programmed areas, 'in-between' surfaces left over by the dominant economic forces of urbanisation, abandoned and/or contaminated sites, degraded and interstitial entities, abandoned sites which have lost all their attractiveness and identity, etc. WL are defined as abandoned or forgotten open spaces or buildings that are not used because of contamination or are at the end of their life-cycle. They form a part of cities and peri-urban hybrid landscapes. They represent an ecological and economical necessity for the regeneration of cities and landscapes and they usually hide an implicit potential of reusing.

Therefore WL are misused or unused spaces that shape landscapes all over the world. The formation of WL is a consequence of the transformation of the economical structure of the region that leads to two main processes that take place simultaneously and work in a cyclical way: city expansion/sprawl; shrinking/deindustrialisation.

The large amount of WL cause a physical fragmentation of the landscape that provokes several problems related to the quality of life, the pollution of sites, the spatial quality of territories and to the economies of regions.



The consideration of WL as a type of landscape and not simply as an accumulation or collection of spaces spread out in a contemporary city may be found in the contemporary definition of landscape, coming from the European Landscape Convention¹⁶ (Council of Europe, 2000), that also includes ordinary and man-made everyday landscapes.

IN THIS PAGE:

Image source: "Agronica" Domus Accademy per Philips, 1995 (A. Branzi, D. Donegani, A. Petrillo, C. Raimondo con T. Ben David). Available: <http://architettura.it/architetture/20020219/> last date of access: 26 March 2015.

16 For further information about the European Landscape Convention, see: 'Council of Europe', http://www.coe.int/t/dg4/cultureheritage/heritage/Landscape/default_en.asp, last date of access: 24 March 2015.

FROM LANDSCAPE TO WASTED LANDSCAPES

In 2000, the European Landscape Convention (Council of Europe, 2000) gave a new definition of 'landscape' meaning an entire territory created by human interventions in the natural environment. This is also as a result of their inter-relation. According to this description, every territory is considered as 'landscape' without discrimination. Both outstanding and degraded territories, and also everyday life areas fit into this interpretation. This understanding makes it necessary for planners and architects to interact with all kinds of landscapes. These include also areas with spatial and social problems such as dereliction, abandonment, damaged environments and are characterised by a low quality of life.

Landscape can be considered as a lens through which to interpret and work in contemporary cities:

"Across a range of disciplines, landscape has become a lens through which the contemporary city is represented and a medium through which it is constructed [Fig.1]. These sentiments are evident in the emergent notion of landscape urbanism" (Waldheim, 2006:15).

By means of landscape it is possible to face the quick temporal changes and transformations of cities:

"Landscape is a medium capable of responding to transformation, adaptation and succession, thus recommending it to the open-endedness, indeterminacy and change of contemporary metropolitan conditions" (Sijmons, 2013: 31).

In the horizontal cities, landscape has a new relevance for making a renewed urban form, in particular in the context of complex natural environments, post-industrial sites and public infrastructure. Landscape is also a medium through which the contemporary city might be apprehended and intervened upon. Furthermore, landscape has relevance in describing the temporal mutability and horizontal extensivity of contemporary cities, characterised by horizontal sprawl and rapid change (Waldheim, 2006).

According to Landscape Urbanism¹⁷, landscape is the more effective means to re-interpret urban developments in opposition to the ideas of the current of New Urbanism, which is based on the importance of buildings to organise human settlements. Landscape Urbanism aims to be an ecological approach in re-cycling WL.

Landscape has a conceptual scope, a capacity to theorise sites, territories, ecosystems, networks and infrastructures. Through a landscape approach it is possible

17 Landscape Urbanism is a theory of urbanism elaborated firstly by Charles Waldheim at the department of Landscape Architecture at the Harvard Graduate School of Design in the mid 1990s.

to organise large urban areas related to the real complexity of cities, offering an alternative to the rigid mechanism of centralist planning. In James Corner's opinion, Landscape Urbanism has the capacity to shift scales, to locate urban fabrics in their regional and biotic contexts, and to re-design relations between dynamic processes and urban form (Corner, 2006), focusing on the field of ecology:

"In conceptualizing a more organic, fluid urbanism, ecology itself becomes an extremely useful lens through which to analyse and project alternative urban futures. The lessons of ecology have aimed to show how all life on the planet is deeply bound into dynamic relationships [...] cities and infrastructures are just as "ecological" as forest and rivers" (Corner, 2006: 29).

Consequently, this tendency to look at contemporary cities through the lens of landscape can be found in many projects. For instance, Tschumi and Koolhaas in their projects for Parc de la Villette, a site left derelict after the demolition of a Parisian abattoir, showed the importance of the role of landscape for contributing to the creation of a post-modern urbanism: layered, non-hierarchical, flexible, and strategic, re-conceiving derelict spaces.

The 'Totale Landschaft' and the opposition of city/countryside

The opposition between city and countryside is not any longer a valid concept for the interpretation of contemporary territories. This concept is well expressed in the idea of 'Totale Landschaft' or 'Total landscape' (Sieferle, 1997) meaning a new type of landscape emerging in contemporary territories in which it is not possible to make a distinction between the urbanised part, the more compact city, and the countryside. In line with this definition, the opposition of city/countryside does not exist any longer since it *"had only a constitutive meaning for an agrarian society"*¹⁸ (Prominski, 2004, cit in: Wandl, A., Rooij, R., & Rocco, R., 2012).

Cultural landscape as an urbanised landscape, synthesis of nature and human activities

In the dissolving low-density cities there is the necessity *'to go beyond a pastoral scenic understanding of landscape'* (Wandl, 2012: 33) considering landscape as a result of human activities in the natural scene. To reach this aim we can refer to the concept of 'cultural landscape'.

In 1964 the German geographer Martin Schwind defined the 'cultural landscape' as the *'objectivated spirit of mankind'* (Schwind, 1964). He observed that cultural landscape is the physical expression of the culture of the population that lives or that

18 For the translation from the German make reference to the paper: Wandl, A., Rooij, R., & Rocco, R. (2012). Understanding the Planning of Open-Spaces in Territories-in-Between: Dupuy's Network Urbanism Approach Applied to Areas in-between Urban and Rural. Delft: EUROPEAN CONFERENCE 2012, Networked Regions and Cities in Times of Fragmentation: Developing Smart, Sustainable and Inclusive Places.

lived in the past in a certain territory.

The contemporary cultural landscape is very different from the old landscape for which people are so nostalgic. It is an urbanised landscape in which city and countryside create “a new symbiosis” (Sieverts, 2003: 43).

The UNESCO World Heritage Committee defined the cultural landscape as a combination of the works of nature and of human activities (UNESCO, 2015). These landscapes are the result of the evolution of human society and settlement over time, and they are the expression of the social, economic and cultural forces of population:

“There exist a great variety of Landscapes that are representative of the different regions of the world. Combined works of nature and humankind, they express a long and intimate relationship between peoples and their natural environment” (UNESCO, 2015).

Third landscape

In contemporary cities a large amount of disused spaces in a suspended state can be seen as opportunities to create future ecological reconnection. In this context a “Third Landscape” (Clement, 2003) is recognisable. Following Clement’s definition, these areas have an uncertain character and they are difficult to classify. In these fragments of landscapes, along the street, at the borders of forests, in the forgotten spaces left over by cultivation, there is no similarity in their configuration and shape but they have in common the fact that unexpected nature and other living beings appear and prevail.



IN THIS PAGE:
Image source: (Geemente Rotterdam, IABR, et. al., 2014: 40).

TYOLOGIES OF WASTED LANDSCAPES

My understanding of landscape starts with the considerations explained above. I will consider as landscape, both exceptional and common territories, in which it is possible to distinguish human intervention and the presence of natural elements. However, my focus will be on the specific portions of landscape that are discarded from the metabolic process of cities, resulting in WL.

1. Wasted Landscapes of dwellings

Outside of the historic centres, in contemporary metropolitan areas, many buildings built after the early seventies have a molecular appearance. They are isolated buildings in lots of land. They are a multitude of solitary and accumulated constructions creating new urban patterns. In some regions, particularly in the Italian context, it appears like a homogeneous, 'do-it-yourself' landscape (Bianchetti, 2003). In this fragmented structure public spaces are sacrificed in favour of an uncontrolled individualism and the spaces in-between buildings are very often just left over as residues. These areas are considered to be WL since there is a lack in quality of buildings and open spaces. In this particular situation the result is that the various and diversified European landscapes seem fragmented and they appear similar in terms of spatial characteristics.

2. Wasted Landscapes of illegal processes

WL of illegal processes are both open spaces in which it is possible to recognise illegal dumping of waste or toxic waste and also buildings realised by not adhering to city planning. Indeed, in many cases the chaotic and disorganised structure of the territory is principally due to the gap existing between the established urban plans and the realised buildings. Unauthorised developments, better known as 'illegal constructions', exploded in the countryside generating urban areas consisting of low quality developments and with a lack of green and public spaces.

Working with this kind of territory is an important challenge for contemporary planners. It is important to design and re-organise these chaotic urban structures, increasing the percentage of public spaces and facilities in the 'illegal landscapes' that are now lacking or not sufficient for the population.

3. Wasted Landscapes of 'waiting conditions'

WL of 'waiting conditions' are buildings in a suspended state waiting for the completion of their construction or waiting for the realisation of plans and projects for their modification that may have been stopped due to, for example, economic problems. They are also paved forgotten areas that are scattered with the skeletal structures of unfinished construction projects. Examples of WL of waiting conditions can also be empty, open spaces waiting for possible future expansions. This is, for example, what is happening currently in the port of Rotterdam where businesses make, for security reasons or waiting for the opportunity for potential future



examples of contemporary
WASTED LANDSCAPES OF INFRASTRUCTURE

TOP:
Casaluce (CE), Campania Region
Image source: 'Google Street View', date of access
2013.

BOTTOM AND IN THE NEXT PAGE:
East Naples
Image source: author's photograph, January 2014.

expansions, spatial reservations creating empty space in the harbour area in which spontaneous biota take hold. Below high-voltage lines and around power stations is another example of the same situation (Geemete Rotterdam, IABR, et al., 2014: 40).

4. Wasted Landscapes of infrastructure

One of the most important components of the process of 'metropolisation' is the development of fast railway and motorway transport networks. Urbanisation and infrastructure development processes mutually influence each other. Very often these network structures simply overlap the territory without creating a clear relationship with the landscape. This lack of attention and design for the landscape elements and the existence of urban sectorial policies create a lot of WL (e.g. underpasses, old railway tracks, infrastructure lines that create separations in the urban structure, etc.).





an example of contemporary reusing of
WASTED LANDSCAPES OF OBSOLESCENCE

WL in the Dutch context are rare, they appear like spots in the territory and they do not create a networked structure.

IN THIS PAGE:
Schieblock, Rotterdam
Image source: author's photograph, August 2014.

5. Wasted Landscapes of obsolescence (Buildings)

Plots in historic cities have led to a patchy spread of underutilised or unused buildings. They are contributing to the formation of WL as a direct consequence of a phenomenon of urban decline (due to different factors and changes in the economic organisation of territories) that crosses the urbanised territory and generates a substantial loss in quality of the denser urban patterns. This phenomenon also includes the periphery of cities and in general specific constructions not used any longer for the function for which they were planned. In these types of WL the architecture has to be regarded as a resource for new uses. These spatial systems ended their planned life-cycle. A project for re-utilisation is needed for them (former and abandoned industrial areas, dismissed or underutilised logistic constructions, former abattoirs, former wholesale market halls, offices, etc.).

6. Wasted Landscapes of dereliction (Open spaces)

WL of dereliction are residual open spaces left over by different sectorial methods of planning. They are interstitial and unplanned. They are not utilised and they result from when different processes for the organisation of the territory overlap, as in layer over layer. They are like islands in the midst of infrastructures, forgotten spaces amongst the industrial and commercial enclaves and areas in-between airports and other large gated areas and even illegal settlements.

These types of WL are vacuum spaces emerging as a result of non-designed processes (sometimes individualistic processes). They usually are perceived as ugly and ordinary.

7. Wasted Landscapes of contamination

Nowadays, cities and their surroundings are undergoing different transformations due to the shift from the industrial to the post-industrial and information era and due to an economic contraction. Large former industrial areas are in a 'waiting condition' to be decontaminated and reclaimed. Other examples of WL due to contamination can often be found located in the degraded peripheries of cities, in-between disused factories and oversized road infrastructures through which trucks do not circulate any longer. Very often nature is starting to take possession of them in the form of a "Third landscape" (Clément, 2005). In these areas, that can be defined also as brownfields, the illegal dumping of different types of waste (including chemical waste) can be observed; for this reason their ecological systems can be under pressure from potential environmental hazards, related to polluted groundwater and superficial water (rivers, canals, etc.). Paradoxically, these areas, since they are not utilised by humans, are extremely important as a reserve for natural resources.

8. Wasted Landscapes of agriculture

A large amount of WL shape the peri-urban territories. Former (and sometimes polluted) agricultural areas are distributed throughout the landscape. Nature as a 'Third landscape' is starting to occupy them, erasing the rigid and regular organisation

of rural territories. These territories are in a 'suspended' condition in-between urban and rural functions. From an ecological point of view, the re-cycling of the networks of these rural abandoned areas represents a strategy for the re-design of networks of recycled landscapes. Among those underutilised or abandoned strips of rural landscapes there are new processes for urban agricultural development in recent times that represent types of latent economies (e.g. abandoned glasshouses, uncultivated areas, etc.).



examples of contemporary
WASTED LANDSCAPES OF AGRICULTURE

TOP:
WL of agriculture in South Holland
Image source: author's photograph, July 2014

BOTTOM AND LEFT:
**ABANDONED AND POTENTIALLY POLLUTED
AGRICULTURAL SITE**
Casaluce (CE)
Image source: author's photograph, October 2013

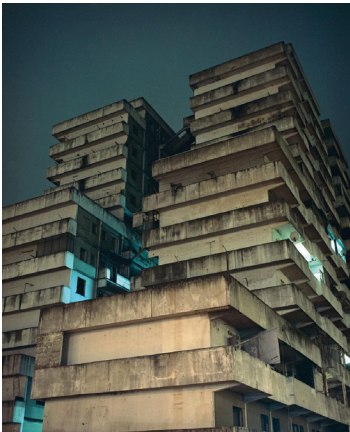




9. Wasted Landscapes of social segregation

“Chronic unemployment and a total absence of social development planning have transformed the area into a narcotics warehouse, a laboratory for turning drug money into a vibrant, legal economy” (Kastani, Schmid, 2013: 52).

WL due to social segregation¹⁹ are spaces seen as unattractive for socially problematic reasons, creating urban fragmentation, particularly in the most ‘malleable’ areas of cities. They are for example social enclaves, cultural ghettos, ethnic enclaves, etc. (for example, nomad camps are very often purposely located in these areas). Sometimes they are deliberately separated from other urban functions and so they become socially degraded.



an example of

WASTED LANDSCAPES OF SOCIAL SEGREGATION

IN THESE PAGE:

“Urban dystopias”

Tobias Zielony’s pictures recount the unforgiving life at Scampia, Naples.

Image source: Tobias Zielony photographer, available at: <http://www.domusweb.it/en/art/2010/06/04/urban-dystopias-by-tobias-zielony.html>

19

For a definition of ‘social segregation’ see Annex 4.



“The morphology of infrastructure is directly linked to the quality of urban metabolism. [...] The shape of the infrastructure changes the behaviour of citizens, improving the quality of urban metabolism. The density of cities has a relationship to the type of transportation that is used” (Timmeren, 2014).

an example of
**WASTED LANDSCAPES OF INFRASTRUCTURE
AND SOCIAL SEGREGATION**

IN THIS PAGE:
East Naples

Image source: author's photograph, January 2014.

1.2 Cycles, processes, metabolisms²⁰

Reduce/Reuse/Recycle²¹ are concepts used in the field of ecology, especially in the waste management sector. It would appear, however, that the 3R rule could also influence the fields of urbanism and design positively (Angrilli, Rizzi 2014: 209).

These principles constitute the basis of new and unconventional practices of intervention in the transformation of the existing parts of the contemporary city that need to be recycled:

“In any case recycling appears to be the key tool in the new ecological approach” (Acebillo, 2012: 21).

A multidisciplinary approach is a fundamental characteristic of the innovative way of transforming the contemporary urban scene based on the 3R idea, through the framework of landscape and urban metabolism.

THE CITY AS A LIVING ORGANISM

Urban metabolism²² is a metaphor and a methodological framework for understanding a city as a living organism:

“The metaphor of a city, or living environment, as a living organism with a collective urban metabolism can be traced back for more than 150 years. More recently, the concept of urban metabolism has been used as an analytical tool to understand energetic and material exchanges between cities and the rest of the world [...] Urban metabolism here is a framework for modeling complex urban systems material and energy streams as if the city were an ecosystem. This approach allows the dynamics of cities (beyond ‘traditional’ mobility and the relationship between built/(un)cultivated environments) to be studied in relation to scarcity, carrying capacity and conservation

20 For a better explanation of this paragraph see the book: Ferrão, P., Fernández J.E., (2013), Sustainable Urban Metabolism; see also: <http://www.bk.tudelft.nl/en/about-faculty/departments/urbanism/organisation/environmental-technology-and-design/research/glossary/urban-metabolism/>; this section refers also to the meeting: “Intelligent cities”, Friday 9 January 2015, TU Delft, Faculty of Architecture.

21 Recent projects, researches and exhibitions about the recycling technique: German Pavilion XIII Biennale in Venice called “Reduce/Reuse/Recycle”, the exhibition “Recycle” in the Maxxi museum in Rome; the PRIN academic research “Recycle Italy” still in progress. See also the book: Reduce, reuse, recycle, architecture as resource, German Pavilion, 13th International Architecture Exhibition, La Biennale di Venezia 2012.

22 The first thinker that defined urban metabolism was Abe Wolman in the 1965, with his paper: “The metabolism of cities”. He referred the idea of urban metabolism in the management of environmental resources, first of all water.

Waste can be considered as part of the natural cycle of a city’s life and of the transformations occurring in contemporary landscapes.

IN THE NEXT PAGE:

Image source: (Geemente Rotterdam, IABR, et.al. 2014: 34).

of mass and energy” (Timmeren 2014: 5).

Following this type of analogy, urban activities are interpreted as complex flows. Urban metabolism is an emerging field of study focusing on the growth, contraction and the death of cities undergoing different processes. It is also about complex flows of resources in urban dynamics. Resources and materials flows are parts of urban metabolism too. Urban metabolism can be investigated through four fundamental flows or cycles: water, materials, energy and nutrients (Ferrão, Fernández, 2013; Kennedy et al. 2007).

Sustainability is a concept deeply related to urban metabolism, particularly connected to the efficient use of resources. Urban policy makers should be encouraged to understand the urban metabolism of their cities and to endeavour to use urban resources in a sustainable way:

“They must evaluate to what extent their nearest resources are close to exhaustion and, if necessary, consider appropriate strategies to slow exploitation” (Ferrão, Fernández, 2013: xii).

Within this framework, soil can be considered as a non-renewable resource that very often is not used in an efficient way in some European countries. It follows, therefore, that, to have positive effects on global sustainability, it is necessary to identify measures to increase resource-efficiency and reduce waste generation. To this end, the re-cycling of WL is necessary for re-imagining future sustainable developments.

The urban metabolism concept refers to the biological way to analyse the dualities input/output, resource/waste related to the urban settlements, and in a wider sense, to the economic dynamics of settlements and their livability (Acebillo, 2012).

Waste flows

“Decline, decay and wasting are a necessary part of life and growth; we must learn to value them and to do them well”. This is one of the messages of Kevin Lynch’s last book, *Wasting Away* (Southworth, 1990). Therefore waste can be considered as part of the natural cycle of a city’s life and of the transformations occurring in contemporary landscapes.

If we consider the landscape as an infrastructure, it is the physical place where flows of products and people pass through. Between these flows, waste flow is one of the factors that affects landscapes:

“The European Union produces up to 3 billion tonnes of waste every year. All this waste has a huge impact on the environment, creating pollution and green house gas emissions that contribute to climate change, as well as significant loss of materials” (European Commission, 2010).



RESILIENCE
FLEXIBILITY
DISTRIBUTION
SMART
COMMUNICATIVE

The waste disposal process affects also the spatial organisation of landscapes. Indeed during the total life-cycle of waste products space is needed for their collection, sorting and treatment, for example, landfills, etc. Therefore, we can assume that waste flows are relevant in the organisation of urbanised spaces. In addition to other socio-economical factors, such as shrinkage and suburbanisation, they are responsible for the creation of WL in contemporary metropolitan areas.

In the world we live in today, emerging situations emphasise the need for urban metabolism theorisation. In Western shrinking cities the number of disused spaces is predicted to grow. For instance, it is very often possible to find neglected 'big-boxes' located in industrial areas designated to be abandoned in the near future. The accumulation of these WL, for which the designed life-cycle has ended, could compromise cities' metabolism. In addition, rapid and increasing urbanisation is linked to the consumption and erosion of natural resources, mostly extracted in the past century. In the twentieth century the resource consumption per capita increased exponentially particularly related to the extraction of materials for construction.

A PARADIGM SHIFT: TOWARDS CIRCULAR FLOWS/ CIRCULAR METABOLISMS

"The faster we adopt these guiding rules based on urban metabolism concepts, the faster we will change our paradigm to one of sustainable development" (Ferrão, Fernández, 2013: 112).

The main idea on which this work is based on is working on urban organisation to move towards circular metabolisms, analysing the complex interaction between urban dynamics and the environment (Ferrão, Fernández, 2013: xiii). This means to convert wastes and WL back into resources, through recycling processes, to avoid further consumption of non-renewable natural resources, for example, territories and soil. It is demonstrated that the consumption and use of energy, intended as resources, will continue to increase in the near future (Ferrão, Fernández, 2013: 37). For this reason, in order to use resources in an efficient way, it is necessary to recycle the existing stock of buildings as well as WL:

"The city can thus be viewed as an organism with a metabolism that can be studied. If we examine a city's metabolic flows, we can identify raw materials for construction, products, nutrients, energy, residues, and emissions, all with potential environmental impacts that extend well beyond the city limits" (Ferrão, Fernández, 2013:13).

Considering the world as a machine in which we can have more, consume more and, as a consequence, waste more, is not sustainable any longer. In resource consumption, humans have already gone too far beyond the ecosystem's limits.

TOP:
The requirements for contemporary urban planning
approaches
Image source: author's elaboration.

Between humans and nature there is a complex interplay that shows how men use natural resources. Nature is a source to redesign sustainability (Ferrão, Fernández, 2013: 5).

As Ferrão and Fernández noted in their book *Sustainable urban metabolism* (2013), many factors can influence urban metabolism. Urban shape, density, infrastructures, morphology and transportation networks can have influence on energy and material flows. They show that low-density cities need more energy than compact cities (Ferrão, Fernández, 2013:13).

Nowadays, we are living the catastrophe of resource scarcity (Ferrão, Fernández, 2013: 28). The 20th century was the century in which there was the largest amount of waste production. Contemporary cities are seen as:

“the primary engines of consumption in our societies. Many writers, thinkers, and researchers have identified and detailed the many ways in which the contemporary city promotes widespread extraction of materials and dissipation of wastes, regionally and internationally” (Ferrão, Fernández, 2013: 28).

The concept of buildings' life-cycles is related in a certain way to urban metabolism. The normal life-cycle of a building starts with the resource extraction, than there are phases of manufacturing, construction, occupancy/maintenance and the end-of-life coincides, in some cases, with abandonment or demolition and disposal. In this time of resource-scarcity, the phase of abandonment/demolition should be substituted with a phase of re-using/re-generation/re-reparation. The aim is to close the building life-cycle that otherwise will remain open leading to the waste of resources. In urbanised contexts, the linear approach to buildings' life-cycles has to shift to a circular approach. In closing this cycle, shifting towards circular flows, it is possible to avoid the step of resource extraction/consumption needed to build new (infra)structures. In the urban realm it is possible to close, connect and continue these cycles, re-using buildings and re-generating territories. Closing building-and-territories(landscapes)-life-cycles means avoiding the decadence and abandonment that widely characterises the current time. Today we need adaptivity, organisation and precision in opposition to the resource consumption and decadence that characterised the past decades. Re-using means consuming less energy than is needed for the construction of new buildings:

“The construction industry [is] one of the primary drivers of environmental degradation and resource depletion” (Ferrão, Fernández, 2013: 27).

A SUSTAINABLE APPROACH

Urbanisation is in a moment of crisis. Re-using of the existing stock of buildings, recycling WL, re-thinking resource and material flows in an urban context is a way to make a city sustainable and to re-imagine cities as ‘intelligent cities’²³, as intelligent organisms. For the majority of cities all over the world the need to decrease the average rate of resource consumption has become one of the most urgent issues in the urban agenda. As Ferrão and Fernández affirmed (2013: 53):

“However, the need to reduce urban resource consumption, and especially urban energy intensity, has come to be a central priority for cities around the world” .

According to the Intergovernmental Panel on Climate Change 2007: *“Cities are the definition artifacts of civilization, but they are also dangerous parasites, with a capacity to harm regions far beyond their own boundaries”*, this signifies that the ecological impact of urbanisation is much more extended than the size of the city itself. The examination of the relationship between resources and urbanisation shows the ecological footprint of urban life. This means that we have already exceeded Earth’s carrying capacity and that we do need resource minimisation strategies.

Some areas, all around the world, shifted from an agricultural system to a fossil fuel regime. As a consequence, nowadays landscapes’ life-cycles are also dependent on toxic emissions. Acidification, global warming and toxicity, are different types of environmental impacts, that are compromising life-cycles of landscapes and territories.

It follows that, to have efficient environmental resource management, an interdisciplinary approach to understanding urban systems is necessary.

23 For the concept of ‘intelligent cities’ see the seminar: ‘Intelligent cities. Moving forward’, Tu Delft, 9 January 2015 on the occasion of the 173rd Dies Natalis.

1.3 Urban expansion/shrinkage

In the last few years, a wide variety of terms have been utilised by various authors to describe the new configurations of contemporary cities. Being very different from the traditional compact cities, contemporary cities have been defined as generic, extensive, dispersed, diffuse, discontinuous, fragmented, etc. This new form of territory is without boundaries and it has been constructed without a model. Different authors introduced numerous categorisations to describe the world in which we are now living: *Ex-urbia* (Fishman, 1987); *Ciudad informacional* (Castells, 1989); *Città in rete* (Dematteis, 1990); *Edge-cities* (Garreau, 1991); *Global city* (Sassen, 1991); *Exópolis* (Soja, 1992); *City of bits* (Mitchell, 1995); *Metápolis* (Ascher, 1995); *Hipercité* (Corboz, 1995); *Territorio spugna* (Secchi, 1999); *Ciutat de Ciutats* (Nello, 2001).

The distribution of settlements occurs in a quite similar way in the metropolitan regions all around Europe. Something new is appearing in the European metropolitan areas that is neither urban nor rural. This new entity contains in its structure both urban and rural elements that merge and create a new spatial organisation. The whole of the resultant landscape is much more than the sum of its parts: it is something 'in the middle' or 'in-between'. Also for this new kind of landscape, there was an urgency to name it and to find the most appropriate definition. Many authors gave this spatial configuration diverse names, following the specific context configuration in which the different concepts were developed:

“Zwischenstadt (Sieverts, 2001), Tussenland (Frijters & Ruimtelijk Planbureau, 2004), City Fringe (Louis, 1936), Città Diffusa (Secchi, 1997), territories of a new modernity (Viganò, 2001), Stadtlandschaft (Passarge, 1968), Shadowland (Harmers in Andexlinger et al., 2005) Spread City (Webber, 1998) and Annähernd Perfekte Peripherie (Campi et al., 2000) are names given to this spatial phenomenon across Europe” (Wandl, Rooij, & Rocco, 2012: 1).

At the edge of contemporary cities the problem of WL is mainly related to the low-density urbanisation process. A recent process of counter-urbanisation or inversion of growth (Ravetz, Fertner, & Nielsen, 2013: 13) is taking place in Europe. People desire to move from urban areas, characterised by some negative aspects such as congestion, pollution and crime, to the countryside. This is also possible, thanks to the new transport and ICT infrastructures²⁴ (Roberts & Sykes, 2000; COMMISSION OF THE EUROPEAN COMMUNITIES, 2006).

24 Information and Communication Technology.

Disperse settlements, having developed into the countryside, create a new entity: peri-urban areas in which it is possible to distinguish a large amount of WL. We can observe that WL are related to various territorial conditions (water and soil quality/pollution, etc.) and to infrastructures, that very often represent barriers at the neighbourhood level. In some cases because of these circumstances, several areas became residual and they are leftover by the urbanisation processes: we can consider them to be WL.

The formation of WL takes place also in the inner cities due to the shrinkage phenomenon. Shrinkage is a complex phenomenon concerning ageing cities in Europe nowadays. Both population decline and economic contraction, due to industries shifting towards dispersed factories are responsible for the shrinkage of cities and of the urban decline of some their parts.

In general we can assume, according to Alan Berger, that the process of forming WL is related mostly to the diffusion of the settlements and to marked changes in the economic structure of society and markets that leads to urban shrinkage. Cities are undergoing transformations because of the shift from the industrial to the post-industrial and information era:

“The waste landscape emerges out of two primary processes: first, from rapid horizontal urbanization (urban ‘sprawl’), and second, from the leaving behind of land and detritus after economic and production regimes have ended. From its deindustrializing inner core to its sprawling periphery to the transitional landscapes in between, the city is the manifestation of industrial process that naturally produce waste [...] I argue that planned and unplanned horizontal condition around vertical urban centres are intrinsically neither bad nor good, but instead natural result of industrial growth, results that require new conceptualization and considered attention, and that these must be in hand before potential solutions to any problem discovered can be effectively addressed or devised” (Berger, 2006a).

The concept of WL, its meaning, value and implications for the design and planning of cities are notions that are not easily definable. WL can be sections of open space or also buildings at the end of their life-cycle. In this ‘suspended’ status, after one ended life-cycle and before possible new developments and transformations, WL have latent capability that illustrates them not simply as a problem but also as a potentiality for future urban regenerations of contemporary cities.

DIFFERENT PERSPECTIVES ON WASTE

For the purpose of a better understanding of WL as a resource it seems useful to mention the different definitions of 'waste' by diverse authors throughout the years.

Kevin Lynch wrote the first treatise about waste in his last book *Wasting Away*, published posthumously in 1990. He considered decline, decay and wasting as a necessary part of life and growth. In this book about wastes and the environment, he suggests giving the right value to wastes and to acknowledge their importance to human life. The process of wasting and decline were deemed valuable and necessary in people's lives, things and places. Waste is something 'left-over' and according to Lynch's definition:

"Waste is what is worthless or unused for human purpose. It is a lessening of something without an apparently useful result; it is loss and abandonment, decline, separation and death. It is the spent and valueless material left after some act of production or consumption, but can also refer to any used thing: garbage, trash, litter, junk, impurity and dirt. As we have seen, there are waste things, waste lands, waste time and wasted lives" (Lynch, 1990: 146).

In chapter three of the book *Wasting Away*, which could be considered the most interesting chapter for planners and designers, Lynch spoke about 'The waste of Place'. He referred, with this definition, to buildings that are abandoned or demolished, and settlements that are wasted deliberately. There are also waste spaces that appear useless and marginal. 'Derelict land', another of Lynch's descriptions of waste spaces, is a more extensive concept than derelict buildings. In addition, he noticed that in the city there are abandoned transport infrastructure and other absences not welcome in any settled community, but that are essential for the functioning of a larger region (for example highways, airports, and heavy industries).

Besides the recognition of waste as culturally constructed makes it difficult for us to change our view in order to rethink it, Lynch recognised also the ecological and environmental significance of urban wastelands and drosscapes. When these places are abandoned they become a refuge for wild fauna and uncultivated plants. Lynch stressed also the presence of wastelands in the city centre, in the form of vacant lots, scraped cars and exhausted slums underlining the fact that the neglect of space has caused the creation of waste in the urban scene. Lynch uses 'wasting' as a generic term to indicate decline or deterioration. He considers waste as both the 'dark side of change' and 'a necessary part of life' (Neuman, 1992).

Gilles Clément also followed this ecological approach to vacant spaces. In 2004 he defined the Third Landscape ('tiers paysage' in French) (Clément, 2005) as residual landscapes, abandoned or not cultivated lands representing a biological necessity for cities. These marginal areas, without specific functions, are described as 'uncertain

spaces'²⁵ , fragments of the landscape at the edge of forests, along streets and rivers and in the forgotten interstices of cultivated lands where there is no traffic, considering them as a refuge for biodiversity. Following this definition, waste can also be acknowledged as marginal areas in which the biological diversity is preserved creating a possibility for changing the landscape.

Years later in 2006 in the book *Drosscape*, **Alan Berger** defined 'waste' as a term related to the description of the contemporary horizontal urbanisation:

"The words waste and vast [are] two terms frequently used to describe the contemporary nature of horizontal urbanization, as well as connections to the words vanity, vain, vanish, and vacant, all of which relate to waste through the form of empty gestures" (Berger, 2006a).

He considered the Latin term 'vastus': 'as the root for both modern terms vast and waste, for representing that which is left over from a combination of natural and man-made processes (Berger, 2006b). He made also a distinction between the definition of 'waste', 'wasted places' and 'wasteful places':

"Waste landscapes mean actual waste (such as municipal solid waste, sewage, scrap metal, etc.), wasted places (such as abandoned and/or contaminated sites), or wasteful places (such as huge parking lots, retail malls, etc.)" (Berger, 2006b).

Michael Southworth defined WL as marginal abandoned areas present both in the city centre and at the urban edge at different scales:

"Cities are filled with waste spaces-derelict land, vacant buildings, unused rooftops, abandoned factories and rail yards, and the spaces under and around the freeways. The process of urban wasting operate throughout the metropolis, from center to edge, and at multiple scales"(Southworth, 2001).

One of the most important essays about drosscape is 'Stim & dross' written by **Lars Lerup**, Dean of Rice University's School of Architecture. He saw the enormous potential of the 'in-between' surfaces left over by the dominant economic forces of urbanisation and theorised about the urbanised landscape of cities as a 'holey plane' through which he clarifies the relationship between landscape and urbanisation:

"The holey plane seems more a wilderness than a datum of a man-made city. Dotted by trees and criss-crossed by wo-men/vehicles/roads, it is a surface dominated by a peculiar sense of ongoing struggle: the struggle of economics against nature. Both the trees and machines of this plane emerge as the (trail or) dross of that struggle" (Lerup, 1995).

25 Author's translation from the Italian definition: 'spazi indecisi' (Clément, 2005: 10).

According to Lars Lerup's definition, cities are dynamic ecological systems that produce drosscapes as a natural component of every urban system.

DEALING WITH WL IN METROPOLITAN AREAS

The management of WL is the major role of urban planners and designers, as **Michael Southworth** asserts in his essay 'Westlands in the Evolving Metropolis' written in the year 2001. He advocates the correct management of WL as the only way to have sustainable development and regeneration of metropolitan areas:

"Managing the wasting of spaces is a major responsibility of urban design and planning in both the city centre and at the edge. It is not sufficient to simply plan and design new environments; we must plan for and manage ageing environments. The appropriate management of waste is essential to achieving a life-enhancing sustainable metropolis. Some of the basic values underlying urban planning, in fact, relate directly to waste management [...] Planning should be occupied with doing just this: finding new uses for dying city centres, industrial areas, or old military bases and preventing the wasting of greenfields at the edge. It is as important for planners to help places decline or even die gracefully as it is to promote development and growth [...]"(Southworth, 2001).

Designers and planners have to manage WL in the city centre and also at their edges re-thinking the importance and the role of these discarded areas, promoting renewal in the built environment. As Michael Southworth underlined, *"these urban wastelands represent a major resource for future development in the central city"* (Southworth, 2001); in addition, they could have a role in the regeneration of suburban spaces. On a larger scale, WL could represent an ecological, social, aesthetic and economic resource for entire regions.

Alan Berger made a significant attempt to deal with the problem of WL, drosscape and brownfields investigating new tools to work with through the definition of 'drosscapes' as: *"the productive integration and reuse of waste landscape throughout the urban world"* (Berger, 2006). Berger saw the potential of the re-us of these in-between spaces as a process to imagine new urban growth:

"Future urban infill and growth depend on salvaging and re-imagining the collective body of in-between landscapes [...] it becomes paramount to locate waste and identify potential problems and opportunities for reusing it" (Berger, 2006b:39).

Therefore, we conclude that the new challenge for designers is to preserve, in the case of open spaces, their 'suspended' condition in which a biological and an ecological diversity can be found. In the case of unused buildings, both outside and inside cities, another important challenge for now is to re-imagine new life-cycles and uses for them, creating a resilient strategy. Time is an important factor for the re-programming of WL. Sometimes compatible uses must be thought of and executed at the same time as the reclamation of polluted sites. That is the case when we deal

with brownfields that are deeply contaminated and don't seem to be of immediate usability without (big) intervention in the reclamation process.



IN THIS PAGE:

Detroit, Michigan, USA

Source: "Riciclare città e paesaggi Mosè Ricci", date of access: 18 February 2015, url: http://ecowebtown.eu/n_2/it/ricci_it.html

SHRINKING CITIES ²⁶

“[...] the history of our cities has not always coincided with a history of linear growth. Rather, it has been an alternation of growth and decline phases, concentration and dispersion of population, expansion and abandonment of urban areas, as shown by the de-industrialization cycle that has affected many European cities in the second half of the twentieth century. It is for this reason – and even more so today, in the context of contemporary demographic and economic trends – that planners must spatially organize a series of dynamics that move in the direction opposite to those that were traditionally the preconditions of planning [...]” (Zanfi 2015).

All over the world, in the last two hundred years, urbanisation has developed quickly. At the beginning of the 18th century, the population that lived in cities was estimated to be only around 2% of the entire world population, which was, at that time, one billion people. In 2000 the number of people that were living in cities increased to 50% of the world’s population, which was about 6,5 billion people at the time. This percentage is forecast to grow significantly by 2050 when it is estimated that it will be approximately 75% of the global population. Despite this general trend of increasing populations, there are an increasing number of cities in crisis due to their population decreasing significantly. Many places are suffering a process of shrinkage:

“The twentieth century was not only a period of growth, but also of shrinkage. Since 1950, more than 350 large cities worldwide have lost a significant number of inhabitants” (Oswalt & Rienets, 2006: 8).

Consequently, the concept of a ‘shrinking city’ refers to the loss of population in cities worldwide and to a part of urban development that has been neglected.

Until the beginning of the nineteenth century, the process of urban growth and decline was more or less at the same rate. With the industrialisation of the modern age, cities are developed very quickly and consequently the percentage of the population that live in cities has increased. With this rapid Urbanisation we have seen the unchecked development of shrinking cities. The Atlas of Shrinking Cities by Philipp Oswalt and Tim Rienets, published in 2006, provides a global overview of this phenomenon that is affecting cities all over the world in the last sixty years. Most of the cities that have experienced a population decline are concentrated in the old industrialised countries.

Also the countryside has suffered a shrinking phenomenon. Due to mechanised agriculture, rural inhabitants moved to cities to find better job opportunities and

²⁶ For this section see also: <http://www.shrinkingcities.com/>, last date of access: 25 March 2015.

living conditions. Therefore, the rural population decreased leaving empty farms and houses.

The causes that generate the 'symptom' of shrinking cities vary based on the context. Various factors can produce temporary relief but also result in the abandonment of entire cities.

In Europe, the urbanisation phenomenon, which Oswald and Rienets consider as one of the major causes of shrinking cities (Oswald & Rienets, 2006: 88), creates a great movement of populations from the inner cities to the countryside. Italy is one of the countries in which, in the coming decades, the urban population will move from a phase of growth to a period of decline. Peripheral regions are growing in comparison with the contraction of the city centres.

"Worldwide structural change has transformed the economic bases of many cities and regions. The decline of older industries in particular has caused in many cities losses of jobs and residents" (Oswald & Rienets, 2006:118).

Generally, the process of suburbanisation and shrinkage of the population of a certain urban region are simultaneous. As Markus Hesse asserts:

"The relocation of population and jobs to the suburbs is mostly accompanied by the inverse densification of an urban settlement, a process that becomes more extreme when the total population of an urban region is no longer growing, but stagnating or even shrinking" (Hesse, 2006).

Deindustrialisation and urban shrinkage phenomena create a large amount of WL in contemporary metropolitan areas. These brownfields are the natural result of the previous rapid process of industrialisation and the consequent industrialisation due to financial and economic change. In the last decades there was a shift from centralised manufacturing in big factories to the spreading and fragmentation of manufacturing. Deindustrialised sites include abandoned industrial lands, derelict buildings and abandoned open spaces that may not be slated for development or have any projects planned. Deindustrialisation affects contemporary cities creating 'in transition' spaces that are in need of regeneration and reclamation.

Brownfields are generally located next to dense city centres. For this reason they have huge potential for regeneration and transformation that is compatible with city planning. Even if the deindustrialised areas are often polluted or contaminated, they are becoming interesting from an economic perspective for investors because they represent areas of immense value for future transformation and possible productive or tertiary uses close to big high-density cities.

Therefore, it can be seen that the desertification of inner cities in correlation to urban shrinkage is another big phenomenon that is transforming contemporary cities and creating large amounts of WL.

Reduce/reuse/recycle WL in contemporary areas

At this extraordinary moment in time in which urban growth is decreasing, the point of view of urban planners and architects is changing. After the Modernism Movement, in which the only way to intervene in the urban scene was to build new infrastructures and buildings, nowadays re-using and re-cycling of WL seems to be the most interesting field for possible projects. Recycle means to put back into circulation, re-use WL that lose value and/or meaning. It is a practice for the prevention and reduction of waste. Recycle means to create value and sense for WL through the creation of new life-cycles. Recycle is an ecological action that brings forward what already exists into the future, transforming waste into a primary consideration for urban and landscape regeneration (Ricci, 2012).

GENERAL TRENDS OBSERVED IN PERI-URBAN SPACES

The Global context

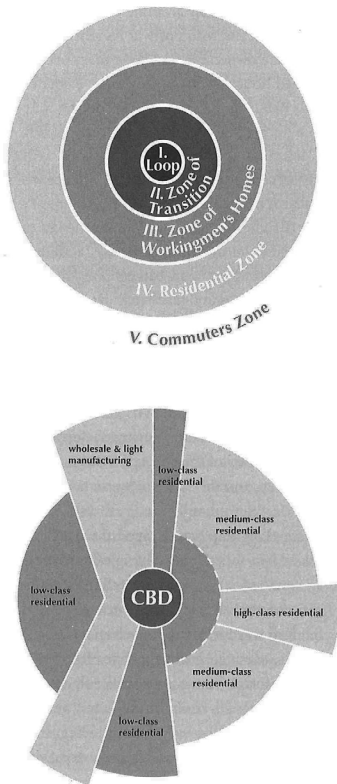
Urban development does not follow a concentric growth around an urban core, as is illustrated by some theoretical models that have been developed. An example of this are the models that were developed by sociologists at the University of Chicago, Robert Park and Ernest Burgess, between the two world wars, to help explain the urban structure and growth of Chicago (Bruegmann 2005: 38).

Nowadays, it is clear that cities do not expand outward in tidy rings, but in complex patterns in which an intermingling of functions (farmland, horticultural areas, recreational parks, forests and nature areas) can be seen, creating rural-urban regions. Urban growth happens in diffused hybrid patterns connected by extensive transport infrastructures.

In older industrial or post-industrial countries the peri-urban, or the so called urban fringe, is characterised by social and economic change and spatial reorganisation. On the other hand, in most of the recent expansions of cities in developing countries the peri-urban is a zone of chaotic Urbanisation and sprawl. In both cases the peri-urban, resisting simple definitions, is not only a transition zone from urban to rural but it can also be considered a new type of territory with a variety of functions.

Many common characteristics define these kinds of areas: a low population density, dispersed settlements, a high dependence on transport for commuting, physical and social fragmentation and lack of spatial government. In the global context peri-urban zones are neglected areas from a physical and social point of view and they represent places in which the problems of cities and countryside merge.

As J. Ravetz et al. emphasise how in some parts of the world, there are five main kinds of urban growth shaped by various spatial patterns: '*low-growth cities*' with a small amount of infilling; '*high-growth cities*' in which dispersed settlements develop quickly; '*expansive-growth cities*', generally in North America with a widespread



TOP:
CITY MODEL TO EXPLAIN THE FORM AND GROWTH OF THE CITY (1920)

developed by sociologists at the University of Chicago, Robert Park and Ernest Burgess, between the two world wars, to understand the urban structure and growth of Chicago.

Image source: (Bruegmann 2005: 38).

diffusion of urban settlement and a low population density; *'frantic-growth cities'* in developing countries in which a large amount of land conversion and population density can be found; and *'shrinking cities'* in which there is an inversion of growth (Ravetz, Fertner, & Nielsen, 2013: 13).

The process of the dispersion of settlements should not only be seen as a negative reshaping of a territory. It also represents an advantage for the majority of the inhabitants of a quite dense territory between compact urban cores and rural hinterlands. Since the Second World War, in the European context, cities have become much less compact and the land use has changed due to the Urbanisation process. European urbanisations are irregularly distributed across the territory. The metaphor of the 'Blue Banana' (Brunet, 1989), or European Megalopolis, explains how the concentration of economic and demographic development takes place in the core of some western European regions making it difficult for areas outside it to compete from an economical point of view.

The clearest examples of the sprawling urbanisation process are the scattered developments in the countryside and the gradual appearance of peri-urban areas. Residential dispersal development, industrial and commercial areas, leisure amenities and dense transportation networks shape the peri-urban spaces.

All over Europe the soil consumption per capita is increasingly leading to a low-density, discontinuous and scattered urban development similar to other regions in the world such as the USA and China.

Peri-urbanisation is something 'in-between' with a rural morphology under the urban influence (Caruso, 2001); there are indeed urban activities in rural areas and citizens have urban lifestyles and social behaviours influenced by the city.

Many factors contribute to the increasing development of residential and recreational settlements on the outskirts of cities such as the establishment of new mass commuter transport systems and the low cost of car ownership. These phenomena lead to an urban sprawl that is defined as the low-density diffusion of settlements into rural territories, very often without systematic regional land use planning and control (EEA - European Environment Agency, 2006; Reckien & Karecha, 2007). It originated with the 'American Dream' (Adams, 1931), term coined by James Truslow Adams in his book *The Epic of America*. Today we can see the effects of this 'Dream':

"During the 10 year period 1990-2000 the growth of urban areas and associated infrastructure throughout Europe consumed more than 8,000 km², equivalent to 0,25% of the combined area of agriculture, forest and nature land (EEA 2006). A quarter of 1% may not seem to be worth worrying about. However, we are talking about an almost irreversible process. Less than 10% goes the opposite way, i.e. is transferred from urban land into brown fields and only a minor part of these are reclaimed to arable land or nature" (Nilsson et al., 2013:2).

The European context

The Randstad, an industrial and metropolitan conurbation in the Netherlands, is one of the most important economic and densely populated areas in the north-west of Europe. In this conurbation there is an urban sprawl phenomenon. The expansion of large urban areas into the surrounding rural land is not an unexpected occurrence in densely populated regions like the Randstadt. Nevertheless, even in regions where the population is decreasing (e.g. Italy, Spain, Portugal and eastern Germany), urban areas are still growing. In many cases (e.g. Leipzig Halle region in Germany) it is possible to find simultaneously the problems of shrinkage and urban sprawl. The same tendency can also be seen in several Italian regions, for instance in the Campania and Puglia regions (Nilsson et al., 2013).

A new generation of low density and dispersed landscapes can be observed and it is shaping peri-urban territories (Mininni, 2006). Diffused residential expansions and manufacturing buildings are occupying the outer edges of cities where residential, tertiary and rural functions are mixed in a chaotic configuration²⁷.

The rapid urban growth of recent decades created a significant reduction of non-urbanised areas generating the dissolution of clear borders between the city and the countryside. Urban dispersion, consumption of rural territories and the damaging of peri-urban landscapes are the main negative effects of the development of our contemporary cities.

Most of the area left over by the process of rapid Urbanisation is not clearly defined or in a stable condition. Their entities are not clearly definable by the well-known classification methods and they are resistant to new stabilities. We can identify them as 'in-between' spaces:

“The in-between landscapes of the horizontal city are liminal because they remain at the margins (or limen, which means ‘threshold’ in Latin), awaiting a societal desire to inscribe them with value and status” (Berger, 2006).

Actual soil consumption is exceeding earth's carrying capacity and it concerns mainly more fertile soil. Soil is basically a finite resource that is under a continuous degradation process leading to high costs (38 billion Euros in 2006) mostly related to society. The aim of the approach proposed by the European Commission is to manage soil in a sustainable way for a long period, taking into account land uses and the relative impacts that they can generate²⁸. The limitation of soil consumption is based on three main points: the protection of rural areas, the safeguarding of valuable culture landscape, the recycling and regeneration of sites no longer in use.

In recent years, in the European context the peri-urban category of landscape has emerged. It indicates, in concrete terms, all the residential settlements recently

27 For a larger explanation of the dispersion phenomenon in Italy make reference to Annex 2.

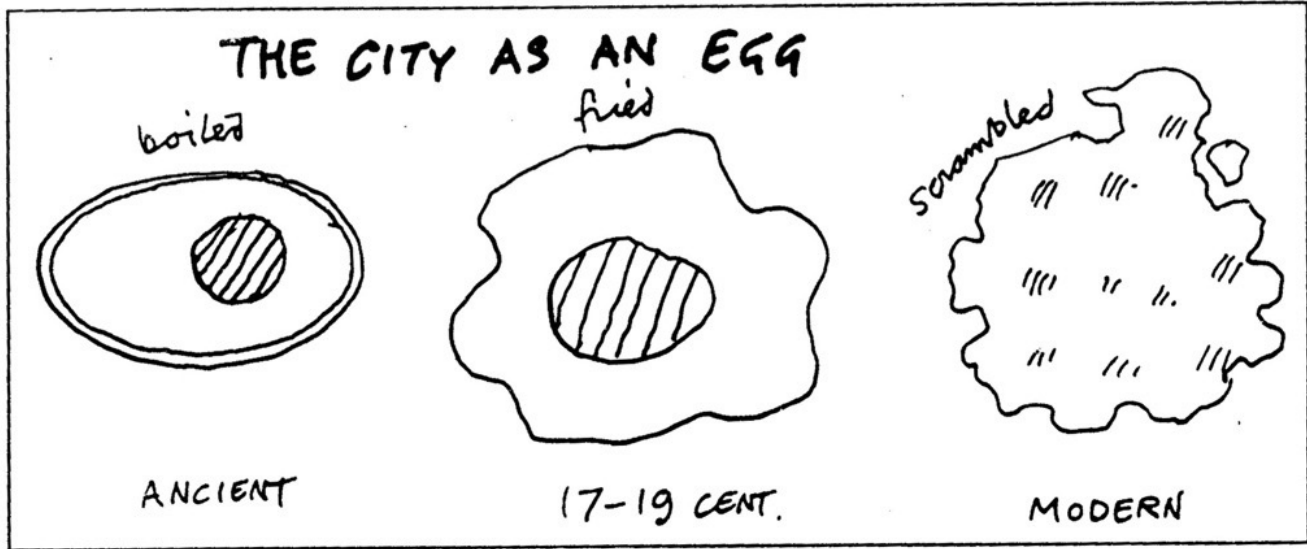
28 See: <http://www.isprambiente.gov.it/it/events/il-consumo-di-suolo-lo-stato-le-cause-e-gli-impatti-1/il-consumo-del-suolo-presentazioni-e-video-degli-interventi>

built and generally situated in areas which were previously rural, a few kilometres from the city centre; their urban and rural characteristics are combined (Castrignano, 2004). The peri-urban effect can be considered as the migration of people (and their residences and activities) from central areas to the rural-urban fringes of metropolitan areas.

Today, rural areas surrounding our urban territories are merging with the urbanised areas to create new hybrid entities. These emerging landscapes, according to Pierre Donadieu's definition, are the most unstable parts of territories and are mostly subject to transformation processes; they are the sites of future peripheries that very often become interstitial areas too difficult to be re-interpreted (Donadieu, 1998). 'Big boxes', big and anonymous buildings for shopping malls or other various functions, are shaping peri-urban territories. They replaced smaller shops and facilities typical of the compact city. In these dispersed areas related to low density developments, new infrastructural networks, such as parking lots, etc. have been built in recent years.

Peri-urban territories are the most problematic areas in contemporary cities. For these fragmented rural/urban areas there is a lack of projects or ideas and they need to be re-imagined by landscape planners to obtain new conceptions for their spatial organisation.

The communities that live in diffused territories create uncertain spaces between the urban periphery and the countryside; these landscapes are becoming more and more widespread and very often they are losing orientation and have a lower standard of living. They require a new interpretation and an attempt at re-organisation.



“There was a traditional, dense, ‘hard-boiled egg’ city fixed in concentric rings of development within its shell or walls. Then there was the ‘fried egg’ city, where railways stretched the city’s perimeter in accelerated linear space-time corridors out into the landscape, resulting in a star shape. Finally there was the postmodern ‘scrambled egg city’, where everything is distributed evenly in small granules or pavilions across the landscape in a continuous network” (Shane, 2006: 64)

IN THIS PAGE:

Source: Cedric Price, “Three Eggs Diagram”, cit. in: Shane G. (2006), ‘The Emergence of Landscape Urbanism’, in: Waldheim, C. (2006) ‘The Landscape Urbanism Reader’, p. .

1.4 From dispersion to ‘metropolisation’²⁹

The dispersion process

The first agrarian revolution in the Neolithic era produced compact cities all over the world. In recent times the industrial revolution caused the spread of cities over their boundaries. A third urban revolution in the post-fordism era produced the suburbanisation and the post-modern organisation of cities sprawling into the landscape (Shane, 2006).

In the twentieth century urban populations began to increase very quickly and the development of megacities and metropolitan regions started to transform the environment. This is an urban revolution that created a new, complex landscape that required a specific lexicon in order to be described: ‘post-modern’, ‘global’, ‘networked’, ‘hybrid’, ‘splintered’ (Benton-Short & Short, 2013: 98). Rapid urbanisation, the emergence of megacities and the development of dispersed metropolitan regions are the main effects on the environment due to this global urban change:

“Big city regions are now characterized by more dispersed forms of urban development. The steady suburbanization of jobs and residences has extended the urban region further out from central cities. Metropolitan regions can be divided into central city and suburban areas. The most significant feature of the last 60 years is the suburbanization of the population and economic activities” (Benton-Short & Short, 2013: 115).

The diffusion of settlements into the countryside and the spreading of cities over large territories like an ‘explosion’ (Indovina F., Fregolent L., Savino M., 2005) are the most visible transformations of the urban shape in recent decades and, for this reason, they are the most studied phenomena. The territories in-between cities and the countryside are characterised by different levels of degradation; a transformation process of the countryside can be seen. The complexity, that shapes the territory on a large scale, is composed of urban fragments on a small scale. This complexity should not be considered as an unknown factor, but instead it should be investigated through a trans-scalar approach (Indovina, 2003).

Various explanations have been given for defining the dispersion of cities into the landscape. As an example, let us recall here the term ‘Zwischenstadt’ used by Thomas Sieverts to define the dissolution of the compact historical European city beyond its borders creating a new ‘in-between’ state (Sieverts, 2003). When we are unable to interpret the complexity of these new urban configurations, we perceive them negatively; this new urban model should not only be criticized but, instead, the

²⁹ Francesco Indovina (2003) defines the term ‘metropolisation’ as the tendency of the urbanisations of the metropolitan areas to integrate and merge with each other; this integration happens thanks to economic activities, social relations and everyday life activities. The whole territory is organized in metropolitan areas, not necessarily connected to a large urban core but structured in variable hierarchies.

potentialities of this ‘something new’ represented by the ‘Zwischenstadt’ should be encouraged:

“What is experienced negatively as fragmentation and incoherence through the inability to perceive the whole can also be perceived as an high degree of complexity through richness in discontinuities, richness in ecological and social niches and as a subjective spatial enlargement. In the long term, meaningful surroundings will never form single images. Each viewing should create new, vague and ill-defined glimmers of images” (Sieverts, 2003: 45).

In this new model the role of urban elements in the city changed. First of all it can be observed that the character of the countryside went from being in the background of cities emerging as an element in in-between buildings. In some cases, the historical centres changed their role as well, to be more like big open shopping malls. In the ‘Zwischenstadt’ the big structures of new shopping malls assumed a new role in the shaping of the landscape.

The ‘metropolisation’ process

The processes of dispersion and ‘metropolisation’ of territories are two phenomena deeply related. Dispersion generates the ‘metropolisation’ of the territory not allowing for social and individual impoverishment (Indovina, 2003). ‘metropolisation’ is a new process creating new relations between the diverse settlements in the metropolitan area. Different causes result in the process of ‘metropolisation’. However, although understanding these factors is not simple, it seems necessary to investigate them thoroughly in order to understand the transformations that are happening in our territories. Firstly, we must consider the transformation in the economic domain: large factories were in crisis and small and medium-sized enterprises proliferated as a new production system. Secondly, it has to be noted that our consumption in everyday life has increased leading to an increased request for facilities. The phenomenon of the local specialisation for different functions, for instance in the clothing sector, is becoming evident.

Francesco Indovina identified a ‘metropolitan mosaic’ that is a territorial structure with different and diffused productive activities, made up of specialised activities, historical centres and new residential neighbourhoods. Both concentrated and diffused being connected by a dense network of roads and railways. The ‘metropolitan mosaic’ is an area with an increased movement of people, goods and information (Indovina, 2003).

In general, it can be stated that contemporary cities have no boundaries. They are characterised by a new social and spatial network architecture (or structure), which forms a different kind of territorial arrangement: the metropolitan region (Castells, 2010); is composed of several metropolitan areas.

Since the beginning of the 21st century, global networks, such as transport and digital communication infrastructures, connect major metropolitan areas in this new

polycentric megacity (Hall & Pain, 2006) and their areas of influence. In many cases, a chaotic planning and a lack of institutional and political unity mark these widespread settlements:

“The metropolitan region is not just a spatial form of unprecedented size in terms of concentration of population and activities. It is a new form because it includes in the same spatial unit urbanised areas and agricultural land, open space and highly dense residential areas: there are multiple cities in a discontinuous countryside” (Castells, 2010).

There is no longer a marked distinction between central cities and their suburban expansions that are sometimes organised as centres of varying dimensions and importance, distributed along transportation networks. A multi-centred structure is at the base of the organisation of the metropolitan region that is unbounded and structured with a mix of land uses.

In Europe there is no sprawl (Castells, 2010) in comparison with American metropolitan areas. In fact European metropolises are simultaneously polycentric and hierarchical with a persistence of urban centrality at the core but with a hierarchical specialisation of functions between various urban centres. As Castells observed (2010), in the networked society, local and global are interconnected through a global network, which creates relations between places in a selective way, according to their relative relevance in the metropolitan regions. Some metropolitan areas encompass the diffusion of networks and create *‘the space of places and the space of flows’* (Castells 2010: 2742).

In the contemporary metropolis there is a great basic contradiction. A strong metropolitan dynamism, which is represented in physical terms by infrastructure networks that simply overlap onto the territory, very often generating metropolitan marginality. This is evident in the dramatic growth of illegal settlements around the world and in the persistence of urban squalor. The space of flows and the space of places (Castells, 2010) are increasingly dissociated.

The combination of places and global networks in the contemporary metropolis generates a ‘short circuit’ in terms of social and spatial exclusion, generating WL.

Periphery and centrality as new concepts in the dispersed city

In dispersed cities the concepts of periphery and centrality change when compared to compact cities. The periphery is no longer only a geometrical concept linked by a metric distance from one point to another. Rather periphery is becoming a social notion by which we mean degraded places from a social and also from a physical point of view (WL). Therefore, centrality is no longer only a spatial phenomenon, since the idea of space and location is changing thanks to technological revolutions in recent years.



1.5 Understanding Wasted Landscapes: conclusions

Residual spaces in contemporary European territories can be considered as a specific kind of waste that should be recycled.

The main problems related to WL are as follows:

- A specific classification for them does not exist ;
- there is not a homogeneous value system to classify them by (Formato&Russo, 2014).

Therefore, starting from the definition of 'drosscape' (Berger, 2006) as a categorisation of WL in nine different typologies is provided in this first chapter. The subdivision into categories of WL that have been identified, started from a literature review, it was improved upon during the analysis of the Campania Region case-study and then verified in other European contexts, particularly in the Netherlands. This was achieved through a selection of diverse projects in reference to WL in the Dutch context.

The discarded areas that are shaping contemporary territories are approached, through this research, with the lens of landscape (Waldheim, 2006) since, after the European Landscape Convention (Council of Europe, 2000) we consider as landscape both outstanding and common or degraded territories. This consideration that everything can be categorised as landscape creates a sense of urgency for planners and architects facing problematic landscapes, especially the areas affected by dereliction or abandonment with the purpose being the improvement of the quality of life in contemporary territories. Furthermore, the research shows that Landscape Urbanism is a way to shift scales (Corner, 2006) and is a new approach to dissolving cities.

It occurs frequently in WL that they get reclaimed by wild nature and this appears in the form of a third landscape (Clement, 2003) that represents a reserve of biota to preserve and improve.

Different typologies of WL are presented also to understand the various causes that provoked them: WL of dwellings, WL of illegal processes, WL of waiting conditions, WL of infrastructure, WL of obsolescence, WL of dereliction, WL of contamination, WL of agriculture, WL of segregation.

All these types of WL are the result of urban metabolism. Cities, like living organisms, inevitably produce waste. Urban metabolism can be investigated through flows: water, material, energy and nutrients (Ferrão, Fernández,, 2013; Kennedy et al., 2007). The flows can also be described in more detail and identified as: goods, people, waste, biota, energy, food, fresh, water, sand, clay, and air (IABR, 2014). Among other factors, waste flows are relevant in the organisation of the territory. The

main idea on which my work is based is the transformation in the urban organisation towards circular metabolisms, converting waste and WL back into resources, through recycling processes, to avoid further resource consumption. In addition, other processes like shrinkage, urban dispersion and 'metropolisation' are responsible for the formation of WL, shaping the territory in a very obvious way.

All over Europe two phenomena are taking place simultaneously and modifying whole metropolitan areas: urban dispersion and shrinking (Oswalt, 2006).

On one hand, the urban dispersion in the countryside generates a diffuse city (Indovina, 1990, Secchi, 2000) characterised by different levels of porosity in the peri-urban areas that are suspended in a condition in-between urban and rural; for this new entity many names have been found to describe its characteristics of diffusion and peripheral phenomena.

In the 90s Cedric Price explained with a very intuitive diagram the evolution of urbanisation throughout the centuries, exemplifying the transformation process with an egg. In his vision modern European cities are transforming themselves from a compact 'boiled egg' into an open system breaking its own boundaries. This new urban shape has lost its compactness and density, spreading into the surrounding periphery. This urban explosion (Fregolent, Indovina, Savino, 2005) generated a huge soil consumption, surpassing the carrying capacity of cities and are seen as 'dangerous parasites' (Panel on Climate Change, 2007).

Simultaneously with urban dispersion, ageing European cities are suffering a population decline because of many factors. Among them post-industrialisation and the shifting to the information era is leaving gaps in the built environment. For example, in the Netherlands many office buildings lose their function and remain vacant (Remøy, 2010: 222), which leads to an urban decline of some areas.

The research focuses also on the most unstable parts of the territory: the peri-urban areas (Donadieu, 1998). Here the mixture of functions and the lack of definition that characterise the spatial organization of the territory create uncertain spaces that very often become WL.

This new model of urbanisation in which extension and contraction, growth and decline phases are alternated, generate discontinuities in the urban tissue, creating abandoned or forgotten areas that we call WL. It follows that re-using existing structures, instead of urbanising fertile areas, can represent an efficient way to manage environmental resources and new urban growth, through re-imagining the collective body of in-between spaces (Berger, 2006).

In this first chapter, we have seen that dispersion/metropolisation and explosion/contraction are simultaneous processes that can generate WL as gaps in the continuity of landscape as well as breaks in the urban patterns. In addition we have noticed that WL are discarded urban or peri-urban areas that are not working in the complex urban dynamics, summarised as the concept of urban metabolism.

Different categories of WL are characterising different realities: dense urban centres and dispersed peri-urban areas. Landscape is considered as a lens to observe

contemporary territories (Waldheim, 2006) and as a medium to re-interpret and regenerate WL.

New issues have arisen from this section and they can be summarised by the following research question that is answered in Chapter 2:

'How Dutch land use planning policy prevents the formation of large amounts of Wasted Landscapes in contemporary metropolitan areas and what are the strategies adopted to recycle them, if any?'

CHAPTER II

WORKING WITH WASTED LANDSCAPES IN CONTEMPORARY CITIES

In recognition of the phenomena that are transforming contemporary territories and generating WL, it seems interesting to me to focus on the issue of the metropolitanisation of cities. Nevertheless, describing contemporary urbanisations only from an aesthetic and morphologic point of view, only related to the description of spaces and of the different kinds of settlements is not enough to understand their structure very thoroughly. In fact, the form of metropolitan areas is dependent, on one hand, on their settlement structure, but, on the other hand, it is also strongly related to the economies and metabolisms that generated spaces and shaped places. To compare different European contexts it is useful to reflect on the following points: (I) shape of settlements; (II) economies that produced settlement patterns and infrastructures; (III) territorial metabolisms and building/landscapes life-cycles.

Why the Dutch case?

For a comparison with the Neapolitan conurbation case-study, the research focuses on the Western area of the Randstad Region because it shares many common features with the Neapolitan metropolitan area³⁰.

There are three main reasons for selecting the Dutch reference case.

Firstly, in the Dutch context it is possible to observe a faster recycling process of WL than in other European contexts. Secondly, it is possible to find similarities in the spatial organisation of the two areas. Thirdly, because it is possible to emphasise an interesting difference in the economic structure of the two metropolitan areas and in their metabolic processes.

The concept of urban metabolism was introduced by Wolman in 1965 as a way to develop sustainable urban environments. It is possible to define urban metabolism as “the sum total of the technical and socio-economic processes that occur in cities, resulting in growth, production of energy, and elimination of waste” (Kennedy et al., 2007).

Urban metabolism is referring to cities as living organisms that erode lands and consume resources from their surroundings excreting waste. This concept is related to the combination of input, output, storage of energy, water, food, goods and waste

³⁰ The 1st January 2015 the institution “Metropolitan city of Naples” was founded. For further information see: <http://www.cittametropolitana.na.it/> or <http://www.provincia.napoli.it/> For the case study we selected a larger plain area that reaches the Regi Lagni in the North, not only the territory included in the administrative border of the Metropolitan city of Naples.

of urban territory (Kennedy, Pincetl, & Bunje, 2011).

In other words, urban metabolism is about a comparison with the workings of the human body:

“We use the concept of urban metabolism to describe the urban system in organic (not artificial) terms, by drawing a parallel with the human body. Metabolism is therefore a key concept here: the metabolism of the urban landscape. How do the ingenious, interlocking flows and systems in this complex, interactive urban system work, which incessantly works to meet the needs of its residents?” (...) (IABR, 2014:14).

To understand the process of WL formation in the Dutch context it is useful to emphasise that, in recent decades, even in the Netherlands, urban metropolitan areas developed around the larger cities with a peri-urban character. In these new landscapes a certain amount of WL is emerging, due to the two diverse and synchronous processes of urban growth and urban contraction. Firstly, it is possible to find, for example, derelict glasshouses and rural, uncultivated areas in peri-urban spaces; secondly, there are a large number of vacant buildings, offices and warehouses, caused by the shift from the industrial to post-industrial organisation of the economy, present both in the denser urban areas and in former industrial areas, as a direct and visible result of the end of their original planned life-cycles.

Regarding the faster recycling process of WL, it is interesting to mention Needham’s statement that shows very clearly why in the Dutch territories WL are rare and, if they exist, what are the principal reasons for their fast recycling:

“The Dutch find it difficult to imagine that unbuilt land, no longer needed for agriculture, could be left alone. That would be wasteful. If agriculture does not use the land, it is potential building land. And if we do want it to remain open, then we must choose an ecological development path for it, and take the necessary measures to help it along that path” (Needham, 2014:12).

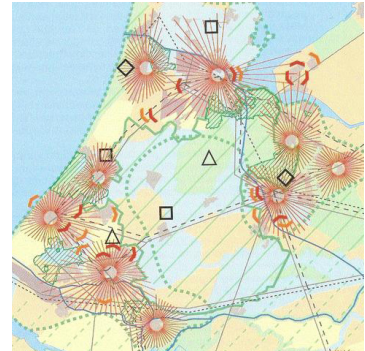
Furthermore, the validity of this affirmation can be confirmed through on-site fieldwork and the research of design examples of recycling WL being currently undertaken in selected areas of the Randstad Region, at different scales and in different social, spatial and economic conditions, which are discussed below.

In this section a description of the contemporary Dutch hybrid landscapes is proposed and an explanation of the major reasons for WL in these territories. This part was elaborated upon through a literature review and through fieldwork. A synthetic outline of Dutch land use planning is also proposed in this section. One of the goal’s aim is to understand the main laws and regulations established over the years to protect rural areas from the spread of settlements.

Subsequently, a selection of examples to re-interpret WL in the Dutch context is proposed. For the choice of design examples the focus is on the Western part of the

Randstad conurbation, in the north-western region of the Netherlands.

The presence of hybrid landscapes and the structure of the conurbation look similar in both Italian and Dutch cases. The sprawling urban area seems to be structured as continuous developments, even if in the Dutch case there is a larger presence of green areas and the difference between the city and the countryside is more prominent than in the Campanian one.



IN THIS PAGE TOP:
Metropolitan area of Naples
Classification of settlement and infrastructural
organization
Belli, Russo (2005: 197) tav.2.

BOTTOM:
The Green Heart or the Randstad Green Structure
state planning region, according to VINEX (Fourth
Protocol on Spatial Planning in the Netherlands),
1993.

© Vierde nota over de ruimtelijke ordening
extra Deel 4 Planologische Kernbeslissing
Nationaal Ruimtelijk Beleid (Hague: Ministerie
van Volkshuisvesting, Ruimtelijke Ordening en
Milieubeheer, 1993), 65.

Image source: 'Joost Meuwisse', date of access: 20
February 2015, url: [http://www.joostmeuwissen.nl/
blog/television/](http://www.joostmeuwissen.nl/blog/television/)



2.1. Neapolitan and Randstad conurbation: a trans-national comparison

A conceptualisation for recycling contemporary territories and the comparison of the cases of the Neapolitan and the Randstad conurbations can be developed from the following three points, previously mentioned in the introduction of this chapter: **(I) shape of settlements; (II) economies that produced settlement patterns and infrastructures; (III) territorial metabolisms and building/landscapes life-cycles.**

SHAPE OF SETTLEMENTS

Multi-centre structure: settlements and infrastructures

The Neapolitan Conurbation is constituted by a continuous high-density conurbation; it is organised following a multi-centric structure, in which urbanised high-density poles are recognisable; it extends from the hills of the Sorrento coast to the Northern plain, towards the Regi Lagni rivers, and surrounds the Vesuvius volcano. This multi-centric structure, developed in the palimpsest of several consolidated and historical centres, did not evolve in a polycentric system because of a strong economic and physical interdependence between the weak centralities and the territories. This development occurred due to, inter alia, a large-scale and inefficient infrastructure system that is crossing the territories but scarcely interconnected. In other words, a well connected networked infrastructure with a distribution of functions on a territorial scale does not exist in this territory (Belli, Russo, 2005: 192).

The so called Piana Campana is a territory characterised by a very marked contradiction. On the one hand, it is a very fertile environment in which the urban history of the Neapolitan area originated in the tracks of the palimpsest, that remained through the years, are still visible and are constituted by Roman settlement patterns; illustrating an exceptional concentration of historical, artistic and architectural heritage. On the other hand, it is affected by a deep ecological crisis consisting of alarming levels of pollution in the area and an altered relationship between the inhabitants and their surroundings. In addition, there is a large presence of illegal buildings and landfills of toxic waste spread into the territories towards Caserta (Belli, Russo 2005: 192).

On the contrary, the Randstad can be defined as a polycentric metropolis in which the infrastructure network is very efficient and creates good interconnections in the region:

“Patterns of linkages and interdependencies between and among the cities, towns and villages of the Randstad area have correspondingly become more complex. As a result the Randstad has become a complex, multi-layered mosaic of places, markets and flows, rife with implicit and explicit intra-regional interdependencies and

FACING PAGES:

Carpet Metropolis: Urban development study for the environs of The Hague
 Source: 'Neutelings', date of access: 20 February 2015,
 url: <http://www.neutelings-riedijk.com/index.php?id=15,70,0,0,1,0>

hierarchies and connected to the rest of the world in intricate ways”(Lambrechts, 2009: 30).

Peri-urban features and hybrid geographies

In recent times, the emergence of a peri-urban landscape is happening all around Europe as well as in the selected study-areas. These low-density territories are discontinuous, in-between urban and rural, and fragmented because of many factors; among them being heavy infrastructure, large industrial areas, big structures, tertiary buildings and a multiplicity of single-family-houses and very often they generate WL when they come to the end of their life-cycle or in the case of not being integrated with other urban elements. They can be described as ‘hybrid geographies’ (MCRIT 2010: 41, cit. in Wandl: 2012: 32):

“European contemporary cities are largely made of ‘middle landscapes’ or ‘hybrid geographies’. This statement means that, in the current observations of our territories is possible to find urbanized areas in rather rural areas, while rural areas can be found within urban environments” (MCRIT 2010: 41, cit. in Wandl: 2012: 32).

In many cases, these hybrid geographies shape a specific landscape in which the different functions are only juxtaposed without being really inter-connected with each other and without sharing any facilities. This combination of parts generates ignored areas, for example open residual spaces that are excluded from plans for using and designing them. Other phenomena like urban dispersion and shrinkage contribute to the appearance of WL in contemporary cities, as we stated in the previous chapter.

Both in the Campania Region case-study and in the Randstad region it is possible to distinguish peri-urban features in the organisation of the territories. In Campania, the instances in which urbanised and in particular industrialised areas are mixed with the rural landscapes are growing (Belli, Russo, 2005: 194). In the Randstad urban and non-urban realms have coalesced producing new kinds of landscapes that resist existing characterisation methods (Tisma, Velde, Nijhuis, & Pouderoijen, 2013).

Concerning the similarities in the spatial organisation between the Randstad and the Neapolitan conurbations, it is relevant to refer to Boelens’ affirmation about contemporary continuous conurbations, that we can utilise to make a comparison between the two cases:



“The traditional compact city, surrounded by an empty hinterland, no longer exists, especially not in the Randstad. Traditional cities have merged into continuous urban agglomerations. We are witnessing the formation of metropolises, with growing contrasts between regions. [...] The connections between urban green networks and peri-urban landscapes are often poor in quality and interrupted by infrastructural barriers. This should be dealt with more consistently, through law enforcement and measures to prevent a cluttered landscape” (Boelens, 2011: 243).

Low-density carpet metropolis

The term ‘carpet metropolis’ was coined by Willem-Jan Neutelings in 1989 to describe and design the low-density southern periphery of The Hague. He exemplified that a large amount of new grey areas were growing in between cities and they needed to be transformed from non-places into places. With his carpet each area can acquire a specific character and function (NAI, Nederlands Architectuur Institute). The ‘carpet metropolis’ is an interesting model applicable also to other contemporary metropolitan areas, a way to go beyond the territorial fragmentation that characterises a complex territory such as the Netherlands. With this concept Neutelings wanted to stress:

“the colorfulness, the fragmentation, and the potential of this stretches of porous urbanity” (Sijmons D., 2014: 188).

With the ‘carpet metropolis’ or the patchwork metropolis, Neutelings aimed to transform the contemporary spatial chaos to:

“an order of a higher complexity that permits a wealth of intense experiences, but also requires new instruments of planning” (Neutelings, 1989).

If we compare the Neapolitan geographical context with the Dutch ‘carpet metropolis’ (Neutelings, 1989) we can assert that the Neapolitan Conurbation is also characterised by a carpet structure, since it is characterised by a fragmentation that needs a new planning idea.

Ring structure

In addition, both areas can be seen to have a ring structure to their settlements; in the Randstad the Green Heart is a green area protect by law, even though nowadays it is becoming urbanised and affected by the attack of suburbanisation of larger and smaller settlements and by the development of new infrastructures (Fazal, Geertman & Toppen, 2012: 116); in Naples the Vesuvius Volcano, is a natural element, generating a (forced) ring structure to the cities. The Neapolitan Conurbation, that we have examined in the study, is characterised by an extreme pressure of urbanisation on rural areas; consequently the areas in between the denser cities have a peri-urban character. Also in the Randstadt conurbation it is possible to distinguish a peri-urban character in the continuous urban agglomeration. .

An analogy can be made between the spatial structure of the Randstad Region and the Neapolitan Conurbation according to the following points:

- Rural areas under urban pressure;
- Peri-urban character;
- Large scale urbanisation;
- Environmental problems (air quality and noise level);
- Mobility problem;³¹
- Polycentric conurbation;
- Carpet metropolis (Neutelings, 1989);
- Urban fragments in a complex, non-spatial order, subjected to a shifting balance of political, economic, historical and cultural forces³² (Neutelings, 1989)
- Large conglomerates that still lack a name (Sijmons, 2014: 188)
- Porous urbanity (Sijmons, 2014: 188)
- Ring conurbation around a green heart;
- Coastal areas.

Both areas have the following in common: fragmented; complex; diverse/heterogeneous; dispersed/sprawling cities.

31 For further information see: <http://www.randstadregion.eu/nl/> , last date of access 25 March 2015.

32 For further information see: <http://www.neutelings-riedijk.com>, last date of access 25 March 2015.

ECONOMIC EFFECTS ON SETTLEMENT PATTERNS AND INFRASTRUCTURES

Besides the many similarities, it is also possible to find many differences in the economic structure and in the metabolic processes of the two metropolitan areas that are the object of the study. These factors influence the formation and the management of WL in both cases. First of all, the Randstad conurbation is economically stronger than the Neapolitan, indeed the Randstad is the largest economic urban region in the European Union (EU) after Paris, London and Milan³³. Secondly, in the Neapolitan conurbation there is higher soil consumption, related mostly to illegal processes, and consequently less green areas in between the settlements, in comparison with the Dutch case. In Campania the criminal organisation Camorra has a big impact on the urbanisation processes:

“The weak economic base of Naples and the forced urbanization allowed the Camorra to extend this territorial base from the port and the inner-city areas to the newly urbanized, scattered, and chaotic settlements on the outskirts, where the bosses placed their fortified villas, where dilapidated housing estates turned into drug markets, and illegal businesses often merged with the informal economy providing subsistence to poorer social groups” (Kastani, Schmid, 2013).

In the Piana Campana illegal real estate development for unlawful property subdivision became a norm shaping the territory. This generated a low-density and irregular city in which density and dispersion are alternated (Belli, Russo 2005: 192):

*“[...] urbanization of Vesuvius proceeds just like any other urbanization process in the region. As **illegality is a permanent and almost constitutive element in this process**, and criminal organizations are becoming endemic and even **an important element of the local economical system**, the areas around the volcano are treated like any other piece of land-as potential assets and as instruments to generate extra profits. As a consequence, the system of illegal construction also invades the risk zones, and even more so, create new risk zones. In this logic the deposit of **toxic waste is just another form of the illegal use and transformation of the land**. The urbanization of Vesuvius and the production of space where illegality plays a key role and where organized crime succeeded in getting control over parts of the territory” (Kastani, Schmid, 2013: 57).*

33 For further information, visit: <http://www.cbs.nl/en-GB/menu/themas/macro-economie/publicaties/artikelen/archief/2008/2008-2443-wm.htm>, last date of access: 25 March 2015.

The metropolitan area of Naples is affected by the very serious problems of ecological crisis, degradation and waste of resources (Belli, Russo 2005: 192) generated by pollution, illegal dumping of toxic waste³⁴ and the use of concrete to make the Regi Lagni Rivers safe, made possible by public financing “Cassa del Mezzogiorno”, after the Second World War (Amenta, Formato 2013: 3), to redevelop the economy of the South of Italy.

In recent times, in the Neapolitan metropolitan areas, the economies, that were based mostly on agriculture, have become **industrial economies**, also through the development of big industrial areas (ASI). In addition, among the factors that did not allow for the formation of a really polycentric structure, it is important to mention the strong influence of Naples, the capital of the region Campania and the third-largest municipality in Italy, after Rome and Milan. The role of agriculture in the Campanian economy is still strong; new and modern policies are needed to sustain it.

34 The situation of the illegal dumping of toxic waste in the Campania Region is very well described in the movie ‘Biutiful cauntri’, the Italian transcription of the pronunciation of the English expression “Beautiful country”. It is structured as a documentary film and it was realized in 2007 by Esmeralda Calabria, Andrea D’Ambrosio e Peppe Ruggiero (cfr. Wikipedia: http://en.wikipedia.org/wiki/Bi%C3%B9tiful_cauntri last date of access: 25 March 2015). Watching the movie, it is obvious that the spillage of a large quantity of toxic waste is happening in WL, as I define them, that are forgotten areas in which the urban planning did not work at all and where Mafia organisations are operating. Most of the areas affected by the accumulation of rubbish are former agricultural areas abandoned by farmers allowing these criminal organizations to use their land as illegal landfills. This fact generates a decline of the economies related to the residual agriculture and farm animals still present in the territories and the increase of problems related to human health.



TERRITORIAL METABOLISM AND BUILDING/ LANDSCAPE LIFE-CYCLES

Urban metabolism is a key concept for understanding the production of WL and also the pollution that characterises contemporary cities. To this aim it is important to focus on how goods flows, people flows, biota flows, energy flows and, last but not least, waste flows influence the quality of life and how they are related to the spatial organisation, development and transformation of the territory, indeed:

“If we analyze, understand and learn to use the structure and metabolism of the city, we can work specifically on a resilient city, and thus more sustainable future” (Geemete Rotterdam, IABR, et al., 2014: 5).



Building and landscape life-cycles derive from economic, productive and development models that are typical of the territorial palimpsest that is being focused on.

In Campania, the majority of the landscapes that have been categorised as ‘Wasted’ are due to the crisis of two main cycles; firstly, the Fordist Industry crisis that is creating a surplus of empty spaces and warehouses; secondly, the haphazard organisation of the territory crisis, constructed according to illegal interests.

The life-cycles of ASI industrial areas, infrastructure and agricultural land are going through a moment of crisis.

As previously stated, after the earthquake in 1980 in the Campania large industrial areas, ASI areas, were developed, under a special law n.219/1980 (Belli, Russo 2005: 194), creating large cluster and gated areas in the countryside or at the edge of big cities. Nowadays these ASI areas are going through a moment of crisis and they have been abandoned. They are critical urban areas in which most of the internal space is disused or underutilised. Also the buildings recently constructed are very often not utilised (PTCP CASERTA 2012, Analisi Territoriale delle aree di sviluppo industriale, Nucleo Aversa Nord).

Big infrastructures are just over-lapped in the territory without considering their relationship to their surroundings; they appear like barriers, non integrated into the landscape. Also the agriculture life-cycle is in a moment of crisis because of illegal dumping and diffused pollution that is transforming the soil, previously considered the most productive in the Region, into unproductive land.

IN THIS PAGE TOP:

ASI INDUSTRIAL AREA

Image source : Google Maps, date of access 26 March 2015.

BOTTOM:

PTCP CASERTA 2012

ASI industrial areas are going through a moment of crisis and they have been abandoned.

In orange the unused areas available for new settlements.

In the Randstad conurbation agriculture strongly influences the structure of the territory. Therefore, the Netherlands is a country in which the agricultural industry is a superpower at an international level and so more agricultural land is requested than in the past. The entire agricultural sector contributes about 10% to the economy (PBL Netherlands Environmental Assessment Agency 2014: 10). But also agriculture is responsible for the majority of greenhouse gas emissions.

In addition, improving accessibility is a current topic in the Dutch agenda. In fact there are International, provincial and local policies for the transformation of infrastructural systems. Of course the increase of motorised travel, for the transportation of people and goods leads to very serious environmental problems (PBL Netherlands Environmental Assessment Agency 2014: 45).

Architects and urban planners should work together using a multiscalarity and multidisciplinary approach as a key way of thinking about contemporary urbanism theories. It is possible to find solutions to the problem of WL from a multi-scalar perspective, ranging from a metropolitan scale to a smaller scale, being very different from each other, down to the building scale. Also the cooperation between authorities, citizens and others stakeholders, creating a multidisciplinary environment, is important for shifting from the current linear economy to the circular economy considering resource scarcity and environmental issues.

2.2 Dutch hybrid landscapes

In the European context the dispersion and the diffusion of settlements in the territory has generated a most complex urban structure: the metropolitan region is characterised by a fragmented structure and heterogeneous land uses. The metropolitan region can be considered as an environment in which people, goods, information and capital interact.

The sixth edition of the International Architecture Biennale Rotterdam, that opened in May 2014 in the Kunsthal in Rotterdam, of which the Dutch landscape architect Dirk Sijmons was the curator stated in the introduction paper for the IABR exhibition about the theme 'Urban by nature', that:

"This city, or to put it a better way this urban landscape, is a variegated mosaic, spread out far and wide with many forms of land use at high and low densities. Identifiable old city cores and new residential areas are part of this, but also farmland, forests, mountains, lakes, strip mines, industrial areas, greenhouses, harbours, recreational villages, zones without clear organisation, and a maze of different kinds of infrastructure. How best to label this sprawling metropolis is a question in itself. We find 'carpet metropolis' (a term coined by Willem-Jan Neutelings) an appealing and usable characterisation" (IABR 2014).

Dutch landscape has continuously been transforming throughout history. It is not identifiable any longer with nature since it is becoming more artificial, urbanised and hybrid. Much fieldwork has demonstrated that in many cases we can recognise specialised areas for mechanised agriculture, glasshouses, leisure parks and other facilities that shape an ordinary landscape.

As stated in the previous paragraph, also in the Netherlands a 'carpet metropolis' (Neutelings, 1989) is recognisable, as the Dutch architect Willem Jan Neutelings asserted. He used this term to describe the fragmented and porous contemporary urbanisation and to indicate its potentialities³⁵:

"Neutelings is fascinated by the periphery and turns the traditional distinction between city and countryside completely upside down. He took the existing landscape between the cities as the starting point and predicted that this space would become more important than the cities themselves. In vivid colours, Neutelings 'weaves' the spatial fragmentation between The Hague and Rotterdam into a coherent carpet. In this new Carpet Metropolis, cities are absorbed into the landscape like collages of urban fragments" (NAI, 2015).

In recent years, most of the peri-urban fringes in the Netherlands have been urbanised (Nabielek, Kronberger-Nabielek, & Hamers, 2013) with the consequent

35 See also: IABR – 2014 – Urban by Nature, p. 188.

formation of 'hybrid' landscapes (Tisma et al., 2013). Fieldwork has demonstrated that they are characterised by a high level of spatial and functional heterogeneity. Residential areas, commercial zones, agricultural land and natural areas shape the rural-urban fringe in the Netherlands, commonly interpreted as spaces in which the city and the countryside merge. The peri-urban fringes are threatened by urban growth and disordered expansions.

Generally, all around Europe, peri-urban spaces are considered to be damaged rural spaces, as low-density urban spaces devoid of identity and urban quality in which there is a lack of planning and where there are uncontrolled developments. On the other hand, in the Netherlands peri-urban spaces are mostly characterised by a mixture of functions and by a heterogeneity in the spatial organisations: warehouses, farmhouses, houses, roads, truck deposits coexist in the same area creating new visual and functional inter-relations:

“Heterogeneous metropolitan landscapes consisting of both urban and rural elements and hybrids of both fall outside existing methods for landscape characterisation” (Tisma et al., 2013: 220).

WL are also part of this everyday hybrid landscape. Therefore, in the Dutch context WL only represent spots of abandoned areas in the territory, since they do not create a real network of neglected spaces as we can observe in other territories, for instance in the southern part of Italy, particularly in the Campanian conurbation, which we will examine later in the dissertation.



IN THIS PAGE:
Example of Dutch Hybrid Landscapes
Image source: author's photograph, April 2014.

Causes of urban dispersion in the Netherlands

The vast literature about urban dispersion focuses on of the many reasons that influenced the diffusion of settlements in the territory. It is possible to categorise them into two main groups: by preferences of the population or by economic motivations. The main reason that causes the development of new settlements in rural areas is the residential preferences of the population. Their choices are affected by the desire to live close to nature and far from chaotic cities. This is made possible by the increase in private car-ownership on which the new concept of a dispersed city is based. The second category is about the economical motivation in choosing dispersed settlements rather than the compact city. First of all, it is important to note the continuous increase in land prices and real estate values in dense cities. The reason for moving to the countryside is also very much related to a scarce quantity of housing that sometimes is present in inner cities and also relative to the lack of quality of city-life due to the effects of pollution and overcrowding. It emerged that large numbers of Dutch people prefer to live in the countryside even if they are not farmers. The built-up areas are expanding so rapidly in recent decades even though the population is not growing so much:

“The number of houses has grown by much more than the number of people because the average number of people living in one house has declined: families are having fewer children, adult divorce and live apart, people are living longer and continue to occupy a house as couple or remaining partner long after the children have left” (Needham, 2014:7).

Dutch natural and agricultural areas are slowly changing into a mingled and hybrid landscape with a mosaic of urban-rural functions. In other countries such as the United States and Canada the rural-urban fringe is usually a very large area. It is approximately 50 kilometres wide. Unlike in the Netherlands, where the irregular belt around cities is quite narrow and can reach a maximum width of around 2 kilometres because of the restrictive Dutch spatial policy for the compact city (Nabielek et al., 2013).

The pressure of urban activities on the peri-urban areas is increasing according to the different local contexts. The general trend towards the diffused and low-density urban pattern is different in the diverse local contexts in which it appears. The diffusion of low-density urbanisations has shaped urban landscapes subject to the same groups of phenomena but with different features. In order to understand the new peri-urban developments and what happened in the metropolitan areas in recent years in the Randstad region, a brief outline of Dutch land use planning is needed.

2.3 A brief outline of Dutch land use planning

In this paragraph a brief outline of the Dutch land use planning is presented, with acknowledgement to Needham's book *Dutch Land-use Planning* (2014), to the paper written by Nabielek, K., Kronberger-Nabielek, P., & Hamers, D. (2013), *The rural-urban fringe in the Netherlands: recent developments and future challenges* and also based on the book by Nilsson, K., Pauleit, S., Bell, S., Aalbers, C., & Sick Nielsen, T. A. (2013), *'Peri-urban futures: Scenarios and models for land use change in Europe'*.

It aims to clarify what are the planning instruments that have succeeded through the years in the Netherlands and their influence on the shaping of the Dutch landscape and on the related formation of WL. It is a different phenomenon in comparison with the situation of landscape degradation happening in other European countries.

LAND USE IN THE NETHERLANDS

Many factors, for instance formal and informal rules and institutions, affect the way in which the land is used in the Netherlands. The content of the Dutch spatial policy contains stipulations about how the Dutch want their land to be used. The formal powers for planning are assigned to the planning agencies. There are many planning agencies in the Netherlands and there are important differences between them because legislation does not describe in detail what is the aim of a good land-use policy.

It is inferred for land-use planning that citizens are prepared to respect the rules that limit their actions on the land. It is possible to distinguish a public interest in the way that land is used in the Netherlands.

Dutch land use planning is influenced by the culture of the Dutch people and by the physical characteristics of the Netherlands. About the 24 per cent of the entire country is below sea level and the West side of the country is vulnerable to flooding (Needham, 2014:4). This is the most populated area of the Netherlands where the majority of the services and the residential areas are located. In the last 30 years the built-up areas of the Netherlands have expanded rapidly because, even if the population is not growing, each person needs more land:

"The Netherlands is densely populated, with 450 people per square kilometer of dry land (in 2011: equal to about 1500 per square mile). That population density can be expressed in terms of the number of square meters available to each person [...] This is one of the highest densities in the world" (Needham, 2014: 8).

The Dutch are defined as a population of land managers because public authorities manage land rather than planning for it. The result of Dutch spatial planning on the

ground is not only the product of rules and organisations but it is also as a result of the way in which rules and organisations are used. The main goals of Dutch spatial planning are:

- economic welfare;
- social justice;
- amenity;
- sustainability.

Dutch people think that the physical environment is not only the result of the 'market forces' but it should be planned for with particular attention to public spaces. In the Netherlands there is a high degree of interconnection between the material elements of the environment such as agriculture, residential areas, public parks, and water. Furthermore, the high population density in a rather small country complicates the situation for planning. Dutch people manage this situation through the 'co-ordination' between the different levels of government and the various stakeholders, a co-ordination of the decision by hierarchy.

The high ambitions of Dutch land use planning have been mostly realised; it follows that the quality of the landscape is in many aspects high. In comparison with other countries, the soil situation in the Netherlands strongly influences the development of buildings because of the necessity to make the land drier. It is very expensive for one person to build on unserviced land and so the majority of the settlements take place in integrated developments.

Dutch planning policy wants to maintain the difference between town and country and it does it through a policy of intensive use of land. At a regional scale we can recognise a network of cities, but in the Netherlands it is problematic to have cooperation on a regional scale between municipalities.

National, Municipal and Provincial policies for the location of new housing
"Responsibility for land use planning in The Netherlands is shared between municipalities, provinces and the state" (Nilsson, Pauleit, Bell, Aalbers, & Sick Nielsen, 2013: 105).

Municipalities are the most important government level; they are responsible for issuing building permits respecting zoning. National and provincial governments can only have an influence on land-use plan and project plan of the municipality.

The location of new buildings for residential use has a big impact on traffic and mobility, on the landscape, on the open countryside, and on the composition of the population. It is an issue of national importance in the Netherlands because even though the number of dwellings is growing slowly, it shapes the Dutch landscape.

The current content of Dutch land use planning policy has similarities to and differences from the Spatial Planning act of 1965. The Spatial Planning act has been modified many times through the years but not in the main principles.

NATIONAL, MUNICIPAL AND PROVINCIAL POLICIES

– 1960 BUFFER ZONES

After the Second World War, Dutch planners and policy makers introduced in the 1960s the 'First National Policy document on Spatial Planning' to avoid cities developing rapidly into green spaces without a solution for continuity between each other. 'Buffer zones' between Amsterdam and Harlem and between Rotterdam and Delft were introduced with this document, in which urban development was strictly forbidden. The strategy of the 'buffer zones' was implemented in the following 50 years to protect 'green' spaces.

In the Dutch national policy, started in the 1960s with the first 'National Policy document on Spatial Planning', it is possible to see continuity through the years guided by five substantive principles:

1. concentration of urbanisation;
2. spatial cohesion;
3. spatial differentiation;
4. spatial hierarchy;
5. spatial justice.

These principles express the high ambitions of the Dutch people for the way in which land is used and they have been followed for at least 40 years; they are not always realised on the ground because of a conflict of interest between national land-use policy and local land-use policy.

– 1966 and 1974 CLUSTER DISPERSAL

To limit urban expansions at the urban fringe the Second and Third National Policy Document on Spatial planning (Ministry of VROM 1966 AND 1974) introduced the ideas of 'clustered dispersal' and 'growth centres'. This strategy achieved the realisation of new towns located not far from the bigger cities (between 10 to 30 kilometres). New settlements could take place outside the existing big cities but 'bundled' and not dispersed (Needham, 2014).

– 1988 and 1990 THE CONCEPT OF THE 'COMPACT CITY'

The new towns realised with the Second and Third National Policy Document on Spatial planning (Ministry of VROM 1966 AND 1978) had a residential character (e.g. Almere and Zoetermeer), without a mixture of functions and cultural differentiation. Consequently, they were widely criticised. Moreover, a phenomenon of shrinking in the big cities like Amsterdam and Rotterdam created a lot of socio-economical problems. This situation induced politicians and planners to shift towards an idea of a 'compact city', regenerating and making existing urban areas more dense.

The 'Fourth National Policy Document on Spatial Planning' (1988) instituted the concept of urban nodes and the 'Supplement to the Fourth National Policy Document on Spatial Planning' (Vinex – VROM 1990) proposed the concept of a 'compact city'. Large peripheral settlements called Vinex were built in later years, following a top-

down model. The Vinex locations are densely populated and they should be built in close proximity to the existing towns and cities and they are required to be linked to public transport and have leisure facilities.

Even though there was a strong policy for protecting the open countryside (five restrictive areas) (Needham, 2014), a large amount of suburban developments were built in the rural-urban fringe, especially in the Randstad polycentric region (Nabielek et al., 2013).

– **2000 RED AND GREEN CONTOURS**

The ‘Fifth National Policy Document on Spatial Planning’ (VROM 2000), gave more power to local administrations, requiring that new buildings were being planned in the ‘Red contours’ surrounding the existing towns. Rural areas were preserved by ‘Green contours’ and within its boundaries new settlements were not allowed. A ‘balanced’ area was established as well, where permission for minor developments improving the countryside was granted.

– **2004 CONCENTRATION AREAS AND URBAN DENSIFICATION**

The subsequent ‘National Spatial Strategy’ (Nota Ruimte, VROM 2004a) highlighted ‘concentration areas’ around existing urban conurbations and ‘urban densification’ in the existing towns and cities. In addition it protected open areas by the designation of buffer zones, ecological networks and national parks to create a national landscape for nature preservation and to contain river flooding.

– **2012 LIBERALISATION AND DECENTRALISATION**

This national policy started with the ‘National policy strategy for infrastructure and spatial planning’ (Infrastructuur en Ruimte 2012a). It seems to not be in continuity with the preceding national policies. It does not indicate specific details about patterns and places for new developments because, according to the national administrators, these issues are not national questions but local ones. Even though throughout the years the national government affected the policies for urban concentration. In recent times current national policy pays less attention to this aspect and it has decentralised spatial planning to municipalities and provinces.

The decentralisation and liberalisation of planning aims to create liveable places to live and work near existing infrastructural nodes. This could also have an effect on development in peri-urban spaces that could cause rapid growth and expansion.

Municipal policy

There is a conflict of interest between national and municipal planning policy. It is due to the intention of smaller municipalities to grow through new housing and industrial estates instead of being in favour of the national policy of a 'compact city', according to which new settlements could be developed around existing towns and cities.

Provincial policy

The provinces attempt to find an agreement between the national and the municipal planning interests, in deciding the number of houses that could be built in the next ten years. These houses can be built only if they follow the land-use plan and if they are in the "red contours". Nowadays the problem of where housing should be built is becoming of less interest because there is a reduction of new housing construction and a demographic change (Needham, 2014:44).

POLICIES FOR COMPACT CITIES AND FORMATION OF THE 'URBAN COUNTRYSIDE'

As Paul Stouten asserts referring to Breheny:

"A compact city is a city that gives priority to urban regeneration, the revitalization of the city centre, restrictions on planned developments in rural areas, high density, mixed functions, public transport interchanges and, to encourage sustainable development, reduction in the use of motor vehicles and pollution and minimizing the loss of rural areas" (Stouten 2010: 52).

Since the 1950s, in the densely populated Netherlands an urban compaction policy has prevented the chaotic development of settlements known as urban sprawl (Nabielek et al., 2013), striving for compact and well organised cities rather than dispersed ones. Therefore the division between town and countryside is well defined due to an effective policy for restricting building in the countryside (Needham, 2014).

However, in recent decades, in certain regions between cities and their surrounding hinterlands, a dispersed urbanisation has developed in the rural-urban fringe as a consequence of better public transportation connections and increased car ownership, affecting the performance of cities and needing innovative re-design strategies implementing a multidisciplinary approach.

The importance of Town Centres

In The Netherlands city centres are of great importance for shopping, recreation, the arts, and residences: they have a symbolic value for the population. The development of big shopping centres, extensively developed in other countries, has been in general not permitted in the Netherlands in the attempt to increase the importance of town centres.

The 'urban countryside' in the Randstad

'The Randstad' (literally 'the rim city') is the horseshoe-shaped ring *"of towns and cities in the west of the country and enclosing an area of 'urban countryside' called 'Het Groene Hart" (the Green Heart in English)*' (Needham, 2014: 98). The Randstad is the most populated of the Dutch regions. Around the Randstad, which includes the cities of Amsterdam, Rotterdam, The Hague and Utrecht, the population is growing slowly. Therefore the 'Green Heart' can be considered as a big peri-urban area in the Dutch Randstad surrounded by the four big cities mentioned above and it has no formal boundaries. It is quite populated and its fragmentation has increased in the last decades:

"A beautiful piece of countryside, located in the western part of The Netherlands, is surrounded by the dense urban areas of four cities: Amsterdam, Rotterdam, Utrecht and Den Haag (The Hague). Because of its location and its rural beauty, this central park within the urban agglomeration of Western Holland is referred to as Holland's

“Groene Hart” (Green Heart). About 600.000 people live in this area. Most of the land is countryside mainly used for agricultural purposes, such as dairy farms and market gardening. The Green Heart is one of last remaining undisturbed natural landscapes in Western Holland. Fragmentation of this region will increase urban development and decrease the value of the scenic countryside” (Leendertse & Burger, 1999:211).

Although the distinction between town and countryside is still clear (Needham, 2014), as stated before, Holland’s ‘Green Heart’ is becoming urbanised because, in spite of national planning desires to maintain this area, the increase of population, workplaces and housing have developed quickly here. But, more recently, this trend is changing.

The Green Heart lost its agricultural role

South Holland is part of the Randstad, the ring of cities around the open green area of the ‘Green Heart’. The role of the ‘Green Heart’ has been in a process of transformation in recent times; from an agriculturally productive region, in the 1950s it is now becoming a part of the Blue-Green network that creates an environmental connection between Zeeland and the IJsselmeer. Agricultural land-use is decreasing due to the lack of EU funding for agricultural production. Although there is a pronounced distinction between urban and rural areas, the Green Heart is actually a hybrid network between rural and urban activities, because in the Netherlands rural areas are in proximity to urban ones³⁶.

36 See also the booklet Ruropolis, A strategic approach for the Dutch Province South Holland, TU Delft.

Policy for Rural areas

Agricultural land in the Netherlands is more expensive compared with other European countries, and therefore it is used in a more intensive manner than outside of the Netherlands. Dutch rural areas are quite populated because a lot of people have a preference for living in the countryside even though they are not farmers. They choose to live in rural areas because they can get away from cities and relax far from the chaos. For this reason the pressure of urbanities on the countryside is increasing and the result is a fragmented rural landscape.

In the Netherlands the rural landscape is considered to be a '*cultural landscape*' (Needham, 2014: 62) since it is constructed by human intervention on the environment. The intensive use of land for agriculture creates problems such as pollution of air and water and it has an adverse effect on biodiversity.

Glasshouses landscape

In South Holland there is a big area called Westland, between Rotterdam and The Hague in which there is a high concentration of glasshouses, causing massive chemical pollution problems.. National policy is considering having dispersal of glasshouses instead of concentrating glasshouses in one big area as a solution. The designated areas for this plan are: Westland, Bollenstreek, Aalsmeer, Boskoop, Venlo (Needham, 2014: 69).



IN THIS PAGE:
Example of Glasshouses landscape
Author's photograph, May 2014.



Natural areas and landscape

Dutch natural areas are preserved through many different political instruments³⁷. Ecological corridors are provided to join natural areas that are important for biodiversity. Landscapes of great historical value are protected through national politics and they are recognised as “National Landscapes”.

National buffer zones protected the areas between towns and cities from new urban settlements until 2011. Then the protection of these areas became a provincial concern.

The result on the ground of Dutch land use planning

In the Randstad region it is possible to see a shrinking phenomenon in rural areas:

“[...] the decline of the employment in agriculture (which was exacerbated by the agricultural policy of modernisation) contributed to the loss of population from villages and small rural towns. People, especially young people, moved away for education and work” (Needham, 2014:76).

In rural areas there are different and conflicting land uses and there is not a clear or unique vision of what these spaces should become to avoid their disorganisation and fragmentation. Very often rural areas are considered only as places for agricultural production or for new potential developments with several protected “green areas”. Provinces are starting to face up to this problem in seeking a coordinated vision for these areas.

Soil pollution in the Netherlands

Dutch soil can be defined as a ‘man made soil’, intensively used and characterised by diffuse contamination:

“In the Netherlands, most of the soils have been created by human intervention: land reclamation, peat harvesting, enrichment with animal manure, deforestation and reforestation, draining, cultivation, equalization, etc. There is hardly a single square meter of land in the Netherlands that has been left untouched by such interventions.

Moreover, the intensive land use in the Netherlands, certainly in the past, has not always been very sustainable. There is currently a more policy-based approach for sustainable soil management” (Wesselink, Notenboom, & Tiktak, 2006:5).

³⁷ For a better understanding of all the political instruments see: Needham, B. (2014). Dutch Land-use Planning: The Principles and the Practice. Ashgate, p. 69-75.

Soil contamination and soil quality became critical issues in the Netherlands in the 1980s, when severe soil pollution was discovered in a residential area in the village of Lekkerkerk in South Holland. During a new real estate development chemical waste was used as building material to level the soil, creating so called 'chemical time bombs' (Needham, 2014:82). The government decided to decontaminate the site and to find other sites that needed to be remediated in the Netherlands. The result was that a large number of polluted sites to be remediated were discovered and billions and billions of Euros were spent to decontaminate those sites. The first Dutch law for soil remediation was the Soil Clean-up Act of 1983. Other regulations were drafted in the following years.

The Netherlands is a country in which soil protection policy is based on legislation (EC, 2006). The Soil Protection Act makes a distinction between severely contaminated soil, lightly contaminated soil and clean soil (Wesselink et al., 2006:5). Policies for soil remediation began around 30 years ago, introducing the principle of 'the polluter pays' as a legal procedure but gradually private funding of soil remediation was put into effect .

Soil sealing

In the Netherlands there are no direct laws for the prohibition of soil sealing. However, there are many political issues in Dutch regional planning and water policy contributing in an indirect way to the mitigation of soil sealing (Wesselink et al., 2006:13).

The Polycentric Netherlands

The Randstad can be described as a multi core metropolis:

"[...] the country is quite small [...] workplaces and houses are fairly dispersed. They are polycentric: concentrated in towns and villages, but those settlements are dispersed" (Needham, 2014: 84).

Public transportation is good and frequent and creates a connection between city centres and remote rural areas.

*An analysis of the development of peri-urban spaces in the province of South Holland*³⁸

In the Netherlands everything is planned and there is a project or an idea concerning all developments. Throughout the years, the public domain took care of urban and rural spaces and did not leave anything unplanned or to chance”.

Planning in the Netherlands has generally stressed the difference between urban (Red) and rural (Green), creating precise boundaries for what is urban and for what is rural, striving for compact and well-organised forms of urbanisation, since the 1950s. Nevertheless, in recent decades, Dutch planners have had to face a new form of city ‘in-between’, neither urban nor rural. There is a heightened interest in discovering the potential and the challenges concerning this ‘new entity’.

The *Stadsrandenatlas Zuidvleugel* is an atlas published in 2011 by LOLA in which all 370 city edges of the Zuidvleugel of the Randstad region are described.³⁹ This atlas offers a description of the typologies of urban fringe in the Netherlands. It is evidence of the start of the debate on the new interaction between rural and urban city development. This book aims to show that the ‘in-between’ spaces are a new ‘entity’ different from what is urban and what is rural in the Netherlands.

In the Netherlands, between rural and urban developments there are, in the majority of cases, a high-quality interaction of shapes and functions. According to Eric Luiten there are three different situations of interaction between urban and rural: 1. Contrast; 2. Contact; 3. Contract.

1.CONTRAST

Through the years, Planning in the Netherlands has underlined specific boundaries between urban and rural developments, defining a strong contrast between them. This very clear spatial situation has been made possible thanks to public investment both in the urban and in the rural sphere.

2. CONTACT

Contact describes how the rural and urban interact harmoniously with each other. The intermingling between urban and rural developments is a legal process and this mix of function is created through a deliberate public decision.

3. CONTRACT

A ‘new entity’ has been developed and it is in-between red (built) and green

38 These notes are taken from a conversation between Eric Luiten, full professor of Landscape Architecture in the Department of Urbanism of the TU-Delft, and myself (2014/05/01) about “wasted landscapes” in Europe and “in-between” spaces in the Netherlands.

39 The atlas describes not only the 370 city edges in general and 20 city edges specifically, it also introduces a new typology (Stadsrandentypologie) and a new strategic map (Stadsrandenkaart). Eric-Jan Pleijster presented the *Stadsrandenatlas* in the presence of many of the provinces of Zuid-Holland and its municipalities. The atlas was referred to on the advice of Eric Luiten, provincial advisor for spatial quality in the province Zuid-Holland.

(unbuilt). Rich people relocate from the city to the countryside for specific activities (for example to play golf) and so they need specific structures creating a new rural/urban combination. They are not parasites of the countryside but rather they establish a new relationship with it and they create a new 'synthesis' with this kind of landscape. This new 'landscape in contraction' has a lot of potential for becoming a 'beautiful' landscape. "For the next generation, these landscapes could be as beautiful as the Seventeenth-century Dutch gardens are for us", asserted Eric Luiten. However, in recent times, we can see a shrinking phenomenon both inside well-organised cities (like Rotterdam, Amsterdam, etc.) and in the countryside.

A shrinking phenomenon can be identified in the countryside because of the construction of big farms and the consequent abandonment of the smaller, old ones. The Netherlands is the world's second largest exporter of agricultural products, after the USA. Therefore old structures, that are no longer efficient, are sometimes abandoned. In the countryside we can also find large, derelict glasshouses because of the crisis.

In other cases, young people leave the small towns, where they were born and raised, and so in these places we can find an unstable situation from a demographic point of view (the population is composed mainly of adults and old people while young people have moved to the big cities).

Dutch planners don't have the funding, ideas or project plans to combat this shrinking phenomenon. However there are large amounts of bottom-up ideas/initiatives contributing to the regeneration of these vacant buildings.

On one hand 'bottom-up' activities and self-organising processes are developing in the shrinking areas; on the other hand globalisation influences the territorial condition and the development of urban patterns. Some are of the opinion that it could be beneficial to have a planning process for these shrinking areas, while others consider it enough to observe the spontaneous and creative bottom-up initiatives that are attempting the reclamation of these urban/rural patterns.

Finally, in the Dutch landscape, of late, vacant land can sometimes be found. This is due to the current crisis because investors have no money to continue their projects and they stop building. Shrinkage can be seen as a part of city life and it can be seen as an opportunity for redevelopment. Sometimes in the Dutch landscape 'overhock' spaces can be found that are WL 'left-over' by two different spatial situations that are not in contact and that do not take into consideration the space 'in-between' them (e.g. near infrastructure).



IN THIS PAGE:

**Example of shrinking phenomenon
in the Dutch countryside**
Author's photographs, May 2014.

PERI-URBAN AREAS IN SOUTH HOLLAND

In the Province of South Holland, after years of development and the creation of water management plants, nowadays, urban expansions seem to be stopped. An explanation is needed to understand the structure of the rural-urban fringe on the outskirts of cities.

City edges in South Holland are areas that together form a structure extended across the province and they can contribute to the improvement of the spatial quality of the province. They don't have a uniform structure but it is possible to distinguish groupings of edge areas with similar characteristics regarding the nature, shape and size of the border, the town side and the countryside. The typology of the outskirts: a grouping of city edges that make up the entire transition between town and country can be observed.

There are ten types of peri-urban areas, which describe the diversity of city edges in the province of South Holland (LOLA & Luiten, 2011:17):

1. **Groene Grens** (Green Border): bordering residential farmland. Nothing happens between town and country, but for the individual who has a house there is an expansive view towards the countryside;
2. **Groengordel** (Green Belt): green space next to the the urban expansion area, created to ease the transition from the countryside to the city;
3. **Waterfront**: a boulevard along a waters edge that connects the city with a wetland with nature and recreation;
4. **Woonlandschap** (Residential Landscape): means an area with significant interaction between city and landscape; the city is part of the countryside and vice versa;
5. **Spanningsveld** (spaces "in tension", "in transition", "waiting spaces"): a mix of living, farmers and leisure facilities, without a clear edge between town and country;
6. **Stortplaats** (Dump, waste turned into landscape): a loose collection of seemingly unwanted features, sometimes on top of a garbage dump or landfill debris;
7. **Loodsenland** (warehouses, storehouses, large industrial buildings): a compact collection of buildings that are indifferent to the landscape;
8. **Zichtlocatie** (Visibility Location); areas that are trapped between rail and highways, where companies benefit from the visibility of their brand;
9. **Havenkwartier** [(Air) ports, cranes and quays]; industrial workplaces, found along large and small rivers;
10. **Vrijhaven** (Recreational use of the Harbour); historical and new (port) areas that are also used for recreational purposes such as eating, drinking, racing, kite flying, etc.

IN THIS PAGE:

City edges in the province of South Holland.

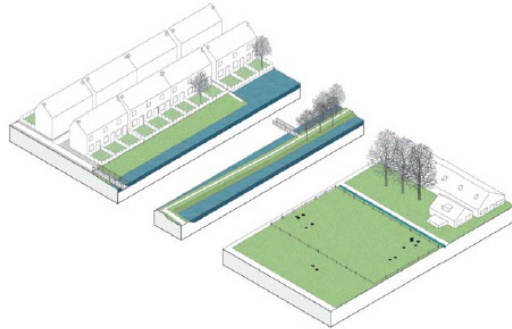
Image source: LOLA, & Luiten, E. (2011). Stadsranden

Atlas van de zuidvleugel. Rotterdam: LOLA

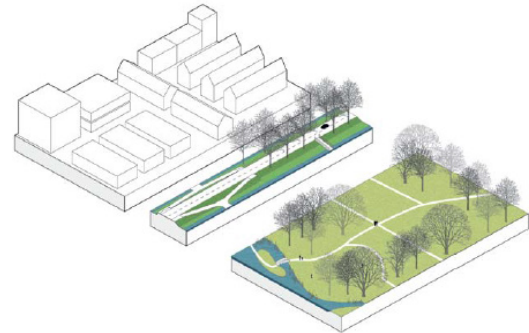
Landscape Architects Rotterdam.

These typologies of outskirts are useful for classifying all the peri-urban areas of the province of South Holland. This classification is not only useful for describing the peri-urban fringe but it can also help to provide new planning solutions for those areas needing improvement of their spatial quality.

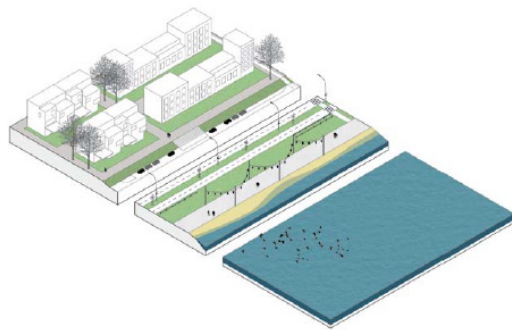
Groene Grens



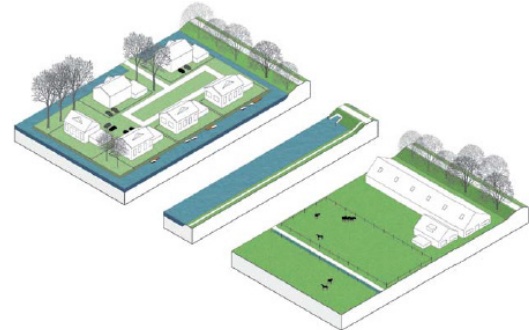
Groengordel



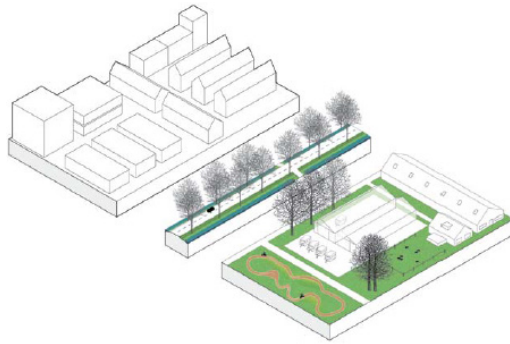
Waterfront



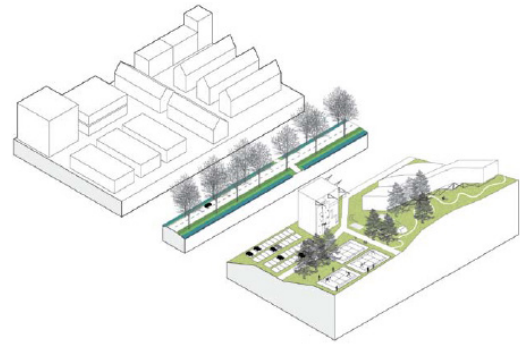
Woonlandschap



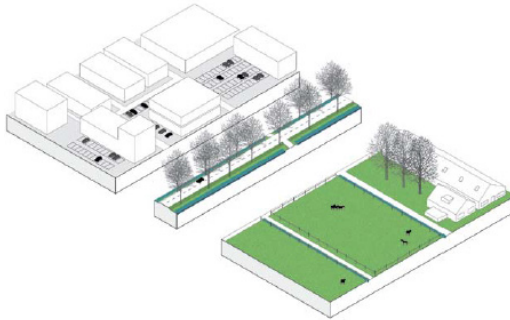
Spanningsveld



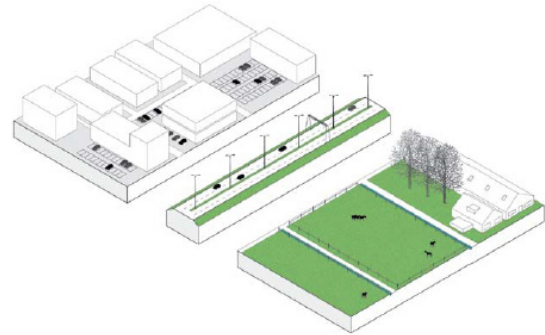
Stortplaats



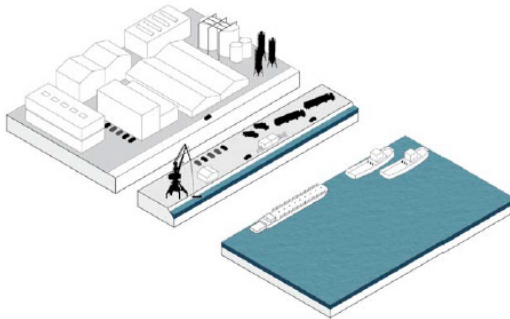
Loodsenland



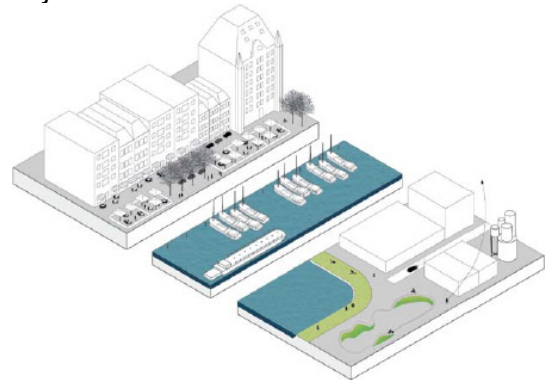
Zichtlocatie



Havenkwartier



Vrijhaven



2.4 Recycling Wasted Landscapes: a selection of examples

A EUROPEAN OVERVIEW

All over Europe it is possible to find examples of re-cycling of different kinds of WL.

Among them, the emblematic example is the **Emscher Landscape Park in the Ruhr Region in Germany**, that can be classified as a former WL of contamination and obsolescence.

In the past the Ruhr Region was dependent on the coal industry for its economy. This fact created, over the years, serious pollution in the whole area that is composed of huge industrial structures that we can see as 'monuments'. After the de-industrialisation process, the Ruhr Region has now been regenerated and transformed into a sustainable environment through a landscape project including the ecological reconstruction of the Emscher River, the reusing of industrial structures and the use of art as a creative approach to give new purpose to the former industrial site. Before the industrialisation the landscape of the Ruhr Region was different. Then the character of the land changed rapidly and, at the end of 20th century the river Emscher had lost its ecological and landscape function becoming very polluted. The urban landscape was dominated by factories (this region saw a growth in the mining industry) and several residential areas were built for the workers of the new industries. After the 1960s one by one the mines closed leaving disused industrial buildings. Afterwards, the first director of the Ruhr Region Association, Robert Schmidt worked on a new vision of the Ruhr Region.

A big change came with the allocation of IBA (International Exhibition Emscher Park). It represents not only a building for exhibitions but also a new way of thinking of the future of the Region. In a 10 year period a lot of projects, in the region of 120, were developed.

Today the park represents an ecological connection between cities (Severenes, 2015).

With this project we can see how, to transform a former industrial polluted area into a new landscape, the cooperation of all provincial and national authorities is fundamental. Indeed the 53 local authorities of the Metropolitan Region worked together in the aim for a new future for the Region.

Other cases can be shown as an example of contemporary ways to recycle WL:

- In **Switzerland**, specifically in Zurich, a former milk factory, called Toni Areal, and classifiable as a former WL of obsolescence, has been transformed into a hybrid location for cultural activities. Demolishing this former milk factory would not have made sense from an ecological, economic and urban planning point of view (Angelus Eisenger and Jorg Seifert, 2012). Converting it into a hybrid location for education, culture and residences meant opening a dialogue with what already existed. EM2N, who in 2005 won the competition to convert and design Toni Areal, collaborated early on with the Canton of Zurich, which was interested in finding a central location for two of its three cantonal universities. Together with politicians, a decision was made to create a cultural building block for the new district Zurich West.

The Toni Areal is a culmination of a massive urban redevelopment of Zurich.

In particular in Zurich-Nord and Zurich-West a lot of urban areas had been abandoned by manufacturing industry by the late 1980s, which moved to the periphery of the city or abroad, leaving large areas of the inner-city as urban potential by the early 1990s. Recent developments show a return to more mixed-use structures, which try to incorporate the existing buildings and expand them where necessary. The large-scale developments of industrial buildings and structures in general were kept because they seemed to be attractive to investors for redevelopment (EM2N,2015).

The focus is to breathe new life into Zürich West rethinking the site as a knowledge hub, becoming the intended catalyst to ameliorate the urban development of this part of the city.

Canton and the City of Zurich, in collaboration with universities and architects were the developers as a result of an architectural competition. It is an example of how a big waste of industrial processes can be re-interpreted and reintegrated into the city becoming a multifunctional building that creates also a social mixité.

- In the **French city of Nantes**, the district île de Nantes, categorised as a former WL of obsolescence and contamination, has been recently transformed from a fragmentary urban area to a cultural and creative district.

The disappearance of the industrial activities related to the collapse of the shipbuilding industry was the key event that prompted the city to decide on the renewal project. A space became available to be reinvented. The city wanted to preserve the maritime and industrial identity of the area, and in the early 1990s, the first regeneration

projects began. The architects and planners Dominique Perrault and Francois Grether developed an idea to transform the entire area in 1994.⁴⁰ In 1998, the city began seeking a team to help define the project and in 1999 the architects and landscapers led by Alexander Chemetoff were chosen to lead the Ile de Nantes transformation project. For 10 years, the Atelier de l'île de Nantes of Alexander Chemetoff has driven an urban project, with a program that could adapt to the changes in urban dynamics.

The former shipyards site, with its slipways and warehouses, was converted into an urban park, and other buildings were renovated to provide cultural and leisure venues. The large industrial Alstom warehouses made way for tertiary economic activities, starting with the transformation of Warehouse 13 into a biotechnology incubator and a multitude of artists and cultural entrepreneurs have set up there. New urban fabric built around public spaces was supplemented with housing developments. Businesses, shops, services, higher education institutions and apartments were built based on instructions given by the stakeholders.

A cultural and creative arts district was born becoming a new economic growth sector. In 2010, the team led by architects and urban planners Marcel Smets and Anne-Mie Depuydt developed a vision for the island in 2030, confirming it as an extension of the historic centre and redefining it as a metropolitan hub.

To do this, they have worked on different points like developing mobility, joining the neighbourhoods through landscape, generating a dialogue between the river-fronts.

The goal of the renewal process for the district île de Nantes was to find a way to preserve the memory of past activities that have marked the historical relationship between the river and the city, and, at the same time, re-develop the urban area.

The dialogue between public and private stakeholders was the key strategy for the project. It was open also to a dialogue with citizens, with the involvement of the population in the urban project workshop to incorporate their questions.

The project management worked toward a global transformation to accommodate different uses and inhabitants, offering an attractive living environment and also restoring the city's relationship with the river.

- In **Austria**, in the city of Wien, the project for the re-development of the Gürtel axis is about the re-adaptation of an infrastructural axis.

40 For further information see: www.iledenantes.com, last access to the web page: 25 March 2015.

Previously considered as a WL of infrastructure and segregation, as a public space.

The area crossed by the beltway was historically degraded and underused; in the 1990s it was Vienna's red light district, a: "Public space was truly a space of fear" as Silja Tillner affirmed (Eisenger A., Seifert J., 2012: 187), creating a barrier between two parts of the city. It was necessary for a renovation, a transformation to obtain better quality public spaces with new attractions, developing a new image for the beltway. The project of Tillner&Willinger architects, in cooperation with the Federal Heritage Office, focused on the renewal of the image of Otto Wagner's rail arches and the possibility to create public spaces. Thanks to the project strategies, bars, galleries and different activities have developed under the viaduct. Today the beltway is becoming a transition place between the centre of the city and the suburbs. (Eisenger A., Seifert J., 2012).

The architects Tillner&Willinger, in collaboration with the Municipality, Federal Heritage Office and University of architecture of Wien, elaborated a project that restores the continuity between the inside and the outside, eliminating the barrier, using glass enclosures with the additional aim to improve the security of the area.

It is considered as an interesting design example for moving from an infrastructural, unused axis, initially perceived as a barrier and a segregating element, to the creation of a public space in the sense of a place to be, and to interact with other people.

- In **Denmark**, throughout the 20th century Fredericia's harbour, considered today as a former WL of obsolescence and contamination, was dominated by heavy industry⁴¹. Then, in 2004, one of the harbour's most prominent chemical plants ended its life-cycle and left the site creating a void in the city. The foundation, Realdania and the city of Fredericia formed FredericiaC P/S joined to transform the polluted harbour area into a new, attractive city district. FredericiaC is an urban development project designed by the Copenhagen design studio SLA. The landscape project uses nature's processes in the urban development to create natural climate adaptation. In this project there is also a great citizen engagement. The fundamental idea behind the project is to have a place in which the reclamation is obtained through natural elements, creating new public spaces.

41 For further information see: <http://worldlandscapearchitect.com/fredericiac-fredericia-denmark-sla/#>. VQLvk2SG-FD last access to the web page: 25 March 2015.



FACING PAGES:

Emscher Landscape Park in the Ruhr Region in Germany

Image source: 'Landschaftspark', accessed 04/03/2015 url: <http://www.landschaftspark.de/service/downloads>





IN THIS PAGE:

**A former milk factory,
Toni-Areal, Zurich, Switzerland**

RIGHT:

Image source: "Archdaily", date of access: 03 March 2015, url:<http://www.archdaily.com/303982/the-new-toni-areal-in-zurich-west/>

TOP:

Image source: "EM2N", date of access: 03 March 2015, url: <http://www.em2n.ch/projects/toniareal>





IN THIS PAGE:

île de Nantes district, France

Image source: 'île de Nantes', accessed 03 March 2015, url: <http://www.iledenantes.com/en/articles/104-l-adn-du-projet.html>



IN THIS PAGE:

The re-development of the Gürtel axis, Wien, Austria

TOP:

Image source: 'Architekten Tillner & Willinger', date of access 06 March 2015, url: <http://www.tw-arch.at/index.php?id=57>

RIGHT:

Image source: 'Gürtelbögen', date of access 06 March 2015, url: https://www.wien.gv.at/gallery2/m53/run.php?g2_itemid=13527





IN THIS PAGE:

Fredericia's harbour, Denmark

Image source: 'World Landscape Architecture',
date of access 13 March 2015, url: <http://worldlandscapearchitecture.com/fredericiac-fredericia-denmark-sla/>

THE DUTCH CONTEXT

Dutch towns are generally undergoing a process of both expansion and contraction. These simultaneous forces generate tears in the urban fabrics, similar to what happens to elastic materials undergoing specific stresses, beyond which they become brittle or break. These lacerations consist of what we call WL.

In the Dutch context WL are mostly due to the followings problems:

(I) A general shrinking of the cities such as Amsterdam and Rotterdam in the period between 1950 and 2000, undergoing a population decrease from 0 to 20%. In addition it is possible to notice that The Hague lost population from 1960 until 2000 (Oswalt, 2006);

(II) A phenomenon of vacancies of office building has been registered in recent times and it maybe represents one of the serious problems of WL in the Netherlands:

“As a result of the changing qualitative demand for office space, new offices are developed though there is no significant quantitative demand for extra office space. A replacement market has developed wherein new buildings drive out bad buildings. In this replacement market office organizations locate to offices with specific characteristics that suit their organization and other office buildings are left vacant” (Remøy, 2010);

(III) Deindustrialisation and related soil pollution problems due to the shifting to a post-fordist economy;

(IV) Abandonment or transformation of obsolete infrastructure or of infrastructures that represent a barrier in the urban area;

(V) Leftover open spaces juxtaposed to road or railway infrastructures.

These problems can be related to some of the categories of WL that have been explained in the previous chapter. (I) Urban Shrinkage can generate WL of obsolescence, WL of waiting condition and WL of dereliction; (II) The problem of vacant office buildings can generate WL of obsolescence; (III) Deindustrialisation generates WL of obsolescence, WL of contamination, WL of dereliction; (IV) WL related to problematic infrastructure systems are WL of dereliction; (V) Leftover open spaces can be categorised as WL of dereliction.

Interventions of sustainable urban renewal regarding existing urban fabrics should face physical, environmental, social and economical challenges. Urban regeneration is related mainly to the re-purposing of obsolete buildings, reinventing new uses for them. It has to be a dynamic phenomenon, responding to changing conditions and working in a complex urban context and involving diverse scales, actors, sectors and disciplines (Stouten, 2010: 11-25). *“Cities change with time”* (Stouten, 2010: 13)

and they are continually in evolution: consequently the sustainability of the urban environment can not be static (Stouten, 2010: 25).

A change of paradigm⁴² is characterizing the work of contemporary urban planners and designers. This is a completely new way to look at living spaces and operating in urban realities. It is a diverse approach to imagining the changes in contemporary cities that have pronounced effects on living areas. The projects for the recycling of WL should be sustainable, ecological and generally sensible of the landscape. They should refer not only to shapes, physical elements or materials but also to the ways of using spaces, economies and meanings, using new urban materials. They are all characterized by new purposes, new meanings and approaches sensible of ecology and landscape:

“Projects are like devices that interpret and re-present again a specific location. They are narrative structures that describe the contexts through the crystallization in characterized and fascinating forms, which essentially set into a spatial system of relationships and values that already exist. The contexts already contain all the potentialities. Only the work of investigation, excavation and re-defining value remain with us. The project can only disclose figures already present in the landscape, which often already contains the sense of change” (Ricci: 2012:14 – author’s translation from Italian).

More flexibility and rapidly adapting possibilities are needed for the plans or projects that can withstand the contemporary economic uncertainty.

The potential role of temporary activities in contemporary cities comes mainly from Germany, in particular Berlin, where temporary uses have found a fertile ground. Recently, many publications provided reflections on the topic of temporary uses⁴³ as a way to solve urban problems like dereliction and under-use caused by the shrinking of European and North American cities, in particular in areas such as Detroit (Bishop & Williams 2012:4).

*Bishop and Williams offer in their book *The Temporary City* (2012) an alternative way to look at abandoned or under-used areas in contemporary cities:*

“Many city authorities in Europe and North America that are charged with the task of encouraging the revitalisation and redevelopment of urban areas are now

42 A paradigm implies “the entirety of generally accepted beliefs and scientific methods at a specific juncture, or the theories accepted at that juncture” (Kuhn, 1970 cit. in van Timmeren 2013:16). For a definition of ‘paradigm’ see Annex 4.

43 Cfr. the definition of ‘Temporary uses’ given in Annex 4; Cfr. Urban catalyst, Urban Pioneers: Temporary Use and Urban Development in Berlin, Berlin: Jovis, 2007; cfr. F. Haydn and R. Temel (eds), Temporary Urban Spaces: Concepts for the Use of City Space, Basel: Birkhauser, 2006, cit. in Bishop, Williams (2012), *The Temporary City*, p. 4.

finding that, for the most part, they lack the resources, power and control to implement formal Masterplans. Instead some are beginning to experiment with looser planning visions and design frameworks, linked to phased packages of smaller, often temporary initiatives designed to unlock the potential of sites now, rather than in 10 years' time. Such approaches are finding resonance and support [...]" (Bishop & Williams 2012:3).

On the other hand, they also stressed that temporary activities are not a new way to occupy vacancy⁴⁴. In the past they have modified abandoned lots within the urbanized areas as parking or storage areas. However, the fact is that these activities are today no longer considered marginal but are becoming of interest to professionals:

"Temporary activities are not new; there have always been gaps and niches in the urban landscape that have been used for the time being for car parking, storage, scrap yards or charity shops. These may be seen as fringe activities, but they are a vital part of the urban economy [...] in recent years temporary activities have flourished, attracting interest as a developing 'phenomenon' from academics as well as the media [...] Temporary urbanism is no longer consigned to the fringes of professional thinking " (Bishop & Williams, 2012:17-18).

Despite the increase in population densities in contemporary cities a large amount of buildings are under-utilised. Currently there is a real revolution in the way of working, organising functions, the way of living and the way in which we use the space due to, among other factors, the impact of WiFi technology. According to the Chartered Management Institute⁴⁵, in the coming years the world of work will see a shifting to a flexible way of working, self-employment, virtual organisations, virtual meetings and more creativity and playfulness. Flexibility in location, time and in terms of workplace are also needed in contemporary society. The number of people that are working from home is continuously increasing; flexible working and self-employment is becoming increasingly common and it may be based throughout cities (Bishop & Williams, 2012:26). This situation generates a lot of vacancies in office buildings that are today completely empty or partially unused. Particularly in the Netherlands, a large amount of office buildings have lost their function and remain vacant (Remøy, 2010).

The following selection of projects show a series of design strategies used by urban planners and architects to find innovative solutions to recycle WL in the Dutch context, despite the limitation of resources (see Table 2). It is evident that with this contemporary resource scarcity we must do more with less.

Re-cycling projects must be adaptive and selective. They must be characterised by temporary uses and less soil consumption. They must lead to the development of

44 For a definition of 'vacancy' see Annex 4.

45 Chartered Management Institute, Management Futures: The World in 2018, London, March 2008, cit. in Bishop & Williams, 2012: 26.

new energy-saving solutions and have ecology as a central consideration:

“Every solution shows the innovative power of scarcity [...]”⁴⁶.

46 See the Exhibition Designing scarcity, Ontwerp en innovatie in tijden van schaarste, 28.6-30.8.2014, Het Nieuwe Instituut, Museumpark, Rotterdam.



AMSTERDAM | DE CEUVEL

From brownfield to sustainable urban developments on a green site

Time line: history of the site and its renewal

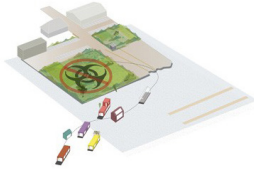
“The Ceuvel site is one of the most sustainable and unique urban developments in Europe”(De Ceuvel 2014).

De Ceuvel is a planned workplace for creative and social enterprises located in the Amsterdam North area. In 2012, Space&matter, with Marjoleine Smeele, won the competition organised by the City of Amsterdam for the regeneration of the contaminated site of the former Ceuvel Volharding shipping wharf.

The main idea, on which the competition was based, was to occupy the area for ten years with the aim of decontaminating it, and giving back fertile soil to the City of Amsterdam.



Space&Matter proposed to turn the former industrial plot into a sustainable urban development. The concept of their project had a dual objective: on the one hand, it aimed to reclaim the soil that nowadays is heavily polluted, through soil-cleaning plants; on the other hand, it aimed to revitalise the area through the creation of creative incubators, located in second-hand houseboats. These temporary structures are placed around a winding bamboo walkway. Each of the upgraded boat houses offices, will be ateliers, or workshops for creative and social enterprises. After ten years, the boats will leave the site without any trace, leaving the land more valuable, biologically diverse, and free from pollutants.



This project focused on developing an innovative concept where flexibility and reuse are central. The actions of the project combine WL and waste materials to create something new, beautiful and valuable.

Categories

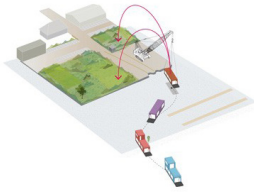
WL of contamination.

Keys strategies and developers

Bottom-up activities.

Evaluation

This project can be considered as a good approach that combines the reclamation of the soil and the prevision of compatible uses and in the meantime is being decontaminated. In addition it allows for the revitalising of the area as a catalyst attractor.



IN THIS PAGE:

Image source: “Space &Matter”, date of access: 11 February 2015, url: <http://www.spaceandmatter.nl/index.php/architecture/ceuvel-volharding/>

IN THE NEXT PAGE:

Image source: author’s photograph, August 2014.





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IN THIS PAGE:
Image source: "Noord", date of access: 13 February 2015, url: <http://www.ilovenoord.nl/2014/05/het-nieuwe-paradijs-op-aarde-de-ceudel-volharding/>
Source: "Waterloft", date of access: 13 February 2015, url: <http://www.waterloft.nl/de-ceudel/>



LEFT AND BOTTOM:

Image source: author's photograph, August 2014.





AMSTERDAM | OVERHOEKS

Redevelopment plan for the former Shell site on the north bank of the IJ

Time line: history of the site and its renewal

In the 17th century, this location was where the gallows stood where criminals were hanged. In those times, these kinds of events attracted quite a few spectators. The history of the site evolved and in 1913 the first Shell buildings were created. Around 1940 the Tower Overhoeks was built.

The area has always been considered a marginal site for the everyday life of citizens and for their leisure activities. Nevertheless, as in other former industrial areas, it is located in a strategic zone not far from the city centre and it is well connected with it through efficient public transportation. For these reasons, it became of great interest for investors and stakeholders considering it as a potential multifunctional neighbourhood for new developments.

In 2002 the first projects for the redevelopment of the area were initiated. The petroleum company concentrated its activities in fewer buildings covering a smaller surface area. For this reason the Company sold 20 acres of land to the Municipality of Amsterdam, that became available for the development of a new neighbourhood. In 2002 Palmbout Urban Landscapes, in cooperation with DRO Amsterdame and Geurst & Schulze architecten, designed the Overhoeks Masterplan. The project was structured in three phases and it was commissioned by Stadsdeel Noord and the city of Amsterdam. The realisation started in 2005. In 2009 Shell moved into a new building.

Meanwhile, the site was cleaned and prepared for the construction of new houses. Today, the first phase is completed. The residential buildings were designed by the Portuguese architect Alvaro Siza, the architect Tony Fretton and Dutch Coenen & Co Architects, Van der Hoeven Baneke architects Mecanoo (Francine Houben) and Geurst & Schulze. In 2009 the construction of the Eye Film Institute Netherlands (designed by Austrian architects Roman Delugan and Elke Delugan-Meissl) also began. In the second and third phases of the project, additional residential areas and facilities, such as commercial premises, shops and other public functions, will be realised including the regeneration of the Tower Overhoeks. This strip is being developed by Team Area development of the Municipality of Amsterdam.

Categories

WL of obsolescence, contamination, dereliction.

Main focus

Overhoeks, an area with a combination of functions, will be a link between Amsterdam city centre and the northern neighbourhoods of the city, becoming an attraction for new investors and residents.

IN THIS PAGE TOP:

Overhoeks it was a former location where the gallows stood where criminals were hanged.

Image source: 'Rijksmuseum', date of access 14 February 2015, url: <https://www.rijksmuseum.nl/nl/mijn/verzamelingen/28997--idzard-van-manen/feniks-laet-zien-dat-je-het-goed-hebt/objecten#/RP-T-1954-182,0>

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Image source: author's photograph, August 2014.

IN THE NEXT PAGE:

Image source: author's photograph, August 2014.





Keys strategies and developers

Overhoeks is an excellent example of a public-private partnership. Seven very different partners have come together to make important decisions about the future of this area: ING Real Estate, the municipality of Amsterdam via the North Project, Amsterdam-Noord, Ymere Vesteda, Shell and the EYE Film Institute Netherlands.

Evaluation

Overhoeks is the redevelopment of a former industrial area, which will give a new site, providing new opportunities back to the city.

Website

- Overhoeks, date of access 11 February 2015,
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AMSTERDAM | VACANT OFFICE BUILDINGS

From ugly buildings to creative incubators

Time line: history of the site and its renewal

Inside the inner core of dense cities we can find a large amount of big buildings (and also whole districts) that are becoming deserted because of the crisis. Some bottom-up “spontaneous” initiatives are occupying these vacant buildings. Foundation Urban Resort was founded in 2006 with its first project being the former Volkskrant building. Since then Urban Resort has taken other buildings in Amsterdam under its wing.

A municipal agency in Amsterdam, the Bureau Broedplaatsen, keeps an eye out for vacant buildings like the Volkskrant House and subsidises their upkeep. There are large amounts of bottom-up ideas/initiatives regenerating these vacant buildings and self-organising projects are developing in the shrinking areas. Some say that it could be beneficial to have a plan for these shrinking areas. Others say that it could be enough to observe the spontaneous and creative bottom-up initiatives that are attempting the reclamation of these urban/rural patterns. Urban Resort provides inexpensive space for the social, cultural and creative sectors, by transforming vacant properties into vibrant spaces, with a public function and a cultural influence. By reusing these vacant buildings Urban Resort wants to contribute to the liveliness of Amsterdam through the promotion of culture in the city.

Volkskrant

Het Volkshotel occupies the former home of the Dutch newspaper de Volkskrant, a 1960s concrete structure. It is a building on Wibastraat in the city of Amsterdam. After many decades, the white facade had turned grey and the interiors were left to crumble as the newspaper found a new office.

Recently, the building has found a new purpose as a public space thanks to its re-invention and through the establishing of new functions including as a hotel. The hotel is indeed a far more open and public approach to the conventionally private atmosphere of a hotel, with spaces designed to cater and appeal to locals, workers, students and of course, travellers.

The Volkshotel is home to Canvas, a top floor restaurant by day and a nightclub by night. It includes a club/restaurant, a rooftop bar and café with a sauna and outdoor spa, and in a nod to its former life, a collection of co-working spaces and meeting rooms.

The work of interior designer Bas van Tol is predominantly inspired by newspaper production and the world of paper, ink and photographs.

Surinameplein 33-35

The former residence was an old people’s home since 1960. In recent years it is being used by Arkin, a mental health care institute in Amsterdam in. Urban Resort has

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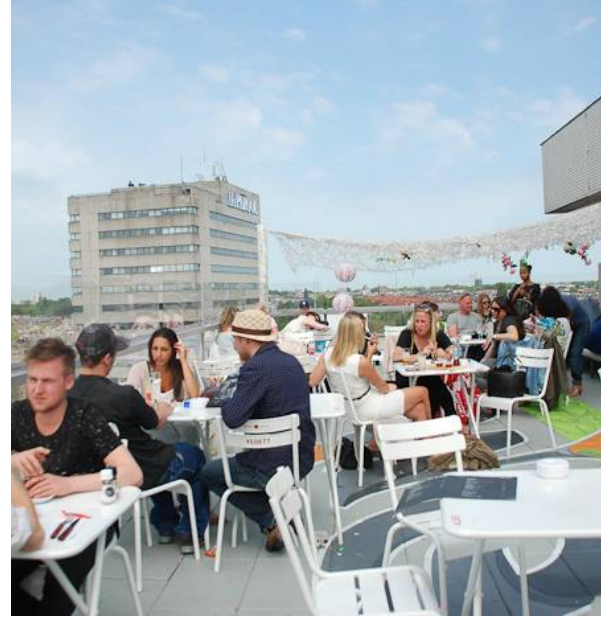
Volkshotel

Image source: Muller van Tol, url: <http://www.mullervantol.nl/news/>, date of access 17 February 2015.

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Volkskrantgebouw

Image source: url:<http://www.volkskrantgebouw.nl>, date of access December 2013.





The building will accommodate a mix of artists, creatives and cultural and social initiatives. With the commissioning of Surinameplein 33-35 it will provide an affordable workspace and also affordable housing for fostering creative talent and other uses.

HW10

This building has transformed from a school to a space for artists and creative uses. The building offers accommodation for creative, social and cultural initiatives creating social aggregation. The activities are organised by local residents and new tenants.

ACTA

Within a year, the former Academic Centre for Dentistry was converted into a student dormitory with 460 rooms. The students helped to rebuild and manage the property.

The ACTA building at Louwesweg is the first vacant office building in Amsterdam that has been converted into student housing. The owner has transferred the overseeing of the building to two managers: the foundation for Temporarily Living Amsterdam (TW-A) and Urban Resort. TW-A is responsible for creating and managing the living space from the second to the eighth floor. Urban Resort provides a cultural breeding ground atmosphere to the ground and first floor.

Housing Alliance purchased the property in 2010 to demolish it and build houses. When this proved to be financially infeasible, the Corporation changed its mind. Students worked on the regeneration of the building in exchange for a discount on their rent. Students manage the property themselves. They regulate issues such as rent collection, maintenance, and quality of life.

Categories

WL of obsolescence, waiting condition.

Main focus

Regeneration of disused office buildings through creative interventions.

Keys strategies and developers

bottom-up activities, start up activities.

Evaluation

This is an example that shows that there is an alternative to demolition through temporary reuse to give a creative and cultural character to the building.

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HW10 building

Broedplaats HW10, date of access 17 February 2015,
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Acta building

NUL 20, date of access 17 February 2015,
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THE HAGUE | BINCKHORST

From heavy industry to creative city

Time line: history of the site and its renewal

Binckhorst is an industrial area of 130 hectares on the eastern side of Den Haag near the city centre with a long history of planning and renewal. A Masterplan was developed with a top-down approach by OMA in 2006 for this area. Because of the lack of financial resources, the Masterplan proposed by OMA remained largely unrealised. The Masterplan was really ambitious and it proposed a city park, a new city entrance, that is a tunnel facilitating faster connections between Rotterdam and The Hague, and a new residential and business space. All these ambitions remained mostly not realised, as stated above, due to the current economic crisis. In fact, already after one year from OMA's Masterplan, the different actors involved in the project were no longer able to face the financial risks that the plan would have caused. For this reason the office of Urhahn Urban Design was contacted to face this problematic situation, from both an economic point of view and from the design perspective. The major criticisms for OMA's Masterplan were about the lacking consideration for the social reality and for the numerous activities already existing in the area. These concepts were the main starting points for the proposal elaborated by Urhahn, from a bottom-up perspective. The idea, on which the new proposal for Binckhorst was developed, was to promote the creation of small projects that acted as a catalyst and show the possibility for new developments for the area. The main examples of creative incubators developed in New Binckhorst are the former Caballero factory and Bink 36. Here innovative, creative and cultural businesses coincide.

Nowadays, Binckhorst can be seen as a flexible area in which combinations of old and new, hard and soft can be found:

"You can see its characteristic buildings from a highly industrial past stand side by side with East-German prefab rebuilding architecture" (Urhahn, 2011: 35).

In the project to redevelop the Binckhorst area the participation of the inhabitants of the area and of private investors was used. There is also a strong connection between people and their direct and physical environment. This is a good space for renewal and experimenting. To conclude, we can say that the project is based on what really exists already.

Categories

WL of obsolescence, contamination, dereliction

Main focus

The project follows a bottom-up approach, giving attention and value to what already exists and to the people that already live in the area, reconnecting Binckhorst

IN THIS PAGE:

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Image source: author's photograph, August 2014.





Keys strategies and developers

Municipality and private funding - public investments and bottom-up activities.

Evaluation

This project/process can be considered a valid example of flexible regeneration of an inner city industrial area.

“Looking at the changes to come, the great diversity of practical local knowledge, experience and skill, in combination with the richness of stories and history of the area, seems to act even more as an anchor for the continuously changing environment” (Urhahn, 2011: 35).

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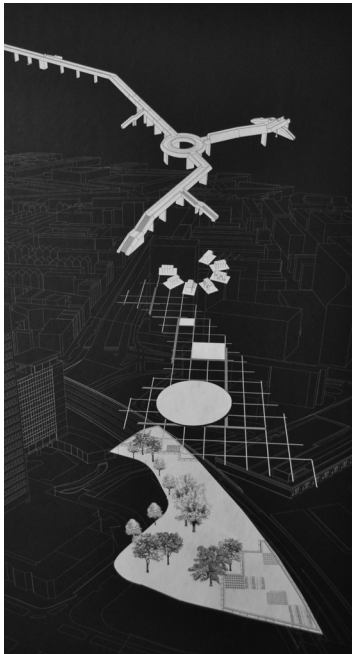
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ROTTERDAM | POMPENBURG PARK

From waste to resource

Time line: history of the site and its renewal

Nowadays, Hofplein, an area located in the Northern side of Rotterdam, has lost its central role in the city, being dominated by empty spaces and main traffic arteries. The project for the renewal of this site include two main aspects: firstly the re-functioning of the Schieblock building; secondly the realisation of the Pompenburg Park constructed in the neglected plot in the Northeast corner of Hofplein; here a pedestrian temporary bridge has been realised.

Until 2009, Schieblock represented 8.000 m2 of vacant office space in the centre of Rotterdam. Today, thanks to ZUS' project (ZUS – Zones Urbaines Sensibles), developed in the period from 2009 to 2013, it is a place where several activities and experiments happen. It represents also a location for creative activities where lectures and exhibitions take place. The roof is utilised as a garden where vegetables are cultivated. The building is connected to different urban areas through a pedestrian temporary wooden bridge, realised mostly through crowd-funding. The bridge, called Skybridge, is 390 metres long and creates a connection between the centre of Rotterdam and the Northern area.

Categories

WL of infrastructure, dereliction, obsolescence

Main focus

Pompeburg Park has been developed to establish a connection between three districts of the city and it has become a catalyst element for further developments.

Keys strategies and developers

The current economic crisis makes it necessary to look for new ways to get funding to realise urban projects. In this respect, crowd-funding strategy has been utilised: Rotterdam citizens and private and public partners participated in the construction of this project directly, buying the wooden structural elements of the pedestrian bridge.

Evaluation

This project explores new strategies to directly involve citizens in the construction of the contemporary urban scene. These ways to intervene with participated projects in which citizens are active parts of the process is quickly changing thanks to the innovative planning instruments based on new digital technologies. This approach can facilitate the creation of a new identity for the places and improve the sense of belonging to them.



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Author's photograph from the Exhibition IABR-2014 Urban By Nature.

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Image source: author's photograph, August 2014.

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Image source: author's photograph, August 2014.





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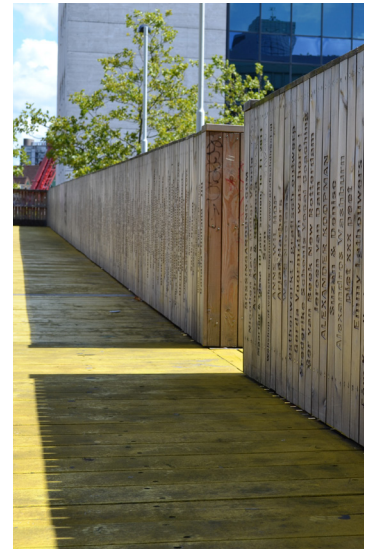
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Image source: author's photograph, August 2014.



ROTTERDAM | AGNIESEBUURT

New creative public spaces

Time line: history of the site and its renewal

Since 2006, some housing associations Havensteder e Vestia in collaboration with Rotterdam Hofpleinlijn (the first electrical Dutch railway line) started to be interested in the renewal of the Hofplein viaduct. Firstly, the debate about the urban regeneration of this area was focused on the re qualification of the former Hofplein station that was abandoned for a long time. Thanks to its position in Rotterdam's urban structure, the former station represents a very interesting connection with the city centre. The railway overpass is composed of 189 arches. It crosses several districts constituting a physical separation between the buildings. The main goal of the project is to renew all the railway arches to improve the quality of the public spaces and therefore the citizens' quality of life. However, the regenerated viaduct will represent a resource not only for local inhabitants but also as an attraction for other visitors. The project works with structures that are potentially useful for modification, through creative practices.

The arches are being changed in a creative way by artisans and creative artists in general, revitalising the area and the surrounding neighbourhoods.

Categories

WL of infrastructure, dereliction, segregation

Main focus

The project aims to regenerate the old infrastructure (the built parts) and its relative open spaces. The objective is to re-inhabit the arches creating spaces in which creative activities happen. Creating new people flows there will increase the quality of the public open spaces.

Keys strategies and developers

Housing associations Havensteder e Vestia in collaboration with Rotterdam Hofpleinlijn operate through crowd-funding. The project is based in socio-economic, cultural, historical and commercial studies.

Evaluation

The project will improve the quality of public spaces, particularly the northern parts of the city. Renewing the former railway infrastructures will recreate a connection with the surrounding urban areas.

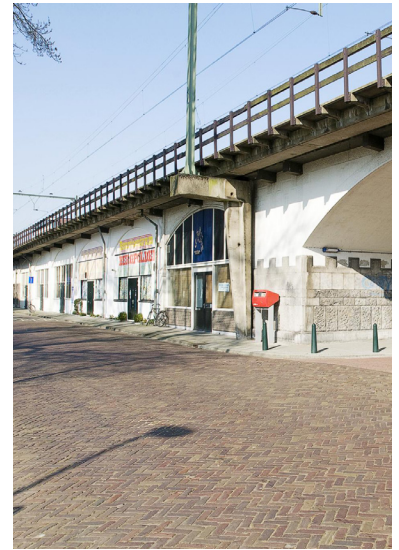
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ROTTERDAM | STADSHAVENS

Renew the city starting from its edges

Time line: history of the site and its renewal

The necessity for improving the economic situation of both the port and the city, led the Municipality of Rotterdam and the Rotterdam Port Authority, in cooperation with private companies, to work together towards developing special, innovative, living and working areas.

The four sub-areas of the Stadshavens in which many recent developments are happening, are:

- Rijn-Maashaven;
- Merwe-Vierhavens;
- Waal-Eemhaven;
- RDM-Heijplaat.

Different strategies are developed to enhance the economic power of those areas, between them: “sustainable mobility” and “crossing borders” aim to re-connect city and port, improving public transportation across the water, and other facilities.

In the same areas examined above, it is possible to find a good example of the recycling of the industrial heritage: the re-qualification of the Fenixloodsen in Deliplein area. The building has been recycled through the creation of several activities, following a bottom-up approach, e.g. the Fenixloods Circuscentrum, the Rotterdam Theatre Walhalla and Fenix Food Factory. The Fenixloodsen Circuscentrum and the Rotterdam Theatre Walhalla are projects realised by Van Schagen Architecten in the recent time.

Categories

WL of obsolescence, dereliction

Main focus

Connecting city and port; revitalising harbour area

Keys strategies and developers

Bottom up activities and private investments

Evaluation

They can be considered good examples of recycling a building with an industrial heritage through bottom-up activities. It can be seen as a major boost in being able to deal with vacant properties in times of crisis through private funding, stimulating new economies in the WL area.

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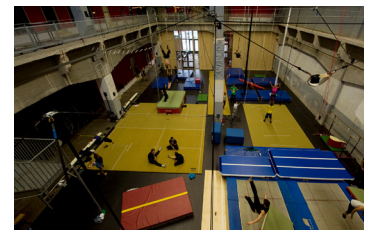
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Image source: author's photograph, August 2014 .



LEIDEN | MEELFABRIEK

The slow process of recycling

Time line: history of the site and of its renewal

In Leiden, the attention to city renewal started later than in other cities like Amsterdam and Rotterdam (Henk, E., van Velzen, E., & van de Wal, O. 2013: 50). Nowadays, one of the most underprivileged areas of Leiden is the Havenwijk district with the big complex of the former flour factory Meelfabriek.

The Meelfabriek was a former flour factory built in 1883. It is considered one of the most important remains of the Dutch industrial heritage and represents also one of the major pieces of Leiden's industrial past. The structures of the Meelfabriek form an autonomous and independent urban unit in Leiden's Havenwijk district that stand out on the city skyline. Therefore, the Meelfabriek can be considered as an important landmark in the Havenwijk district, that is mostly characterized by the traditional urban structure of closed blocks. Nowadays it is in a waiting condition looking for a new life-cycles.

Different phases characterized both Leiden's life and the growth and the decline of its problem district Havenwijk. Subsequently, it is also possible to recognize different life-cycles regarding Havenwijk and the Meelfabriek through the years. The complex relationship between the district and the city will be examined below.

In the period between 1660 and 1670 the population of Leiden reached 70.000 inhabitants and the city became Europe's leading industrial centre. In this period the area of Havenwijk was developed as an industrial one (Henk, E., van Velzen, E., & van de Wal, O. 2013: 25).

Some authors assert that Leiden's Havenkwartier is an old district without history (Henk, E., van Velzen, E., & van de Wal, O. 2013: 35)

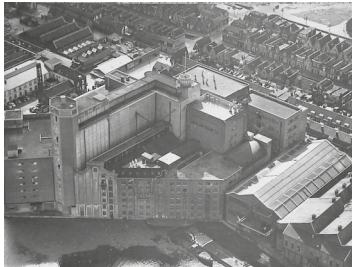
Despite the large-scale urban renewal since the 70s, the structure of the Havenwijk-Zuid district has largely remained intact. In this part of the town innovation and preservation are both present at the same time. The historic structure of the district is the starting point for new developments in this urban part. The housing along the Herengracht / Nieuwe Rijn still preserve the historical character of the district. The centre of Havenwijk-Zuid is comprised of a low-rise building area, creating a strong contrast in scale with the large-scale forms of Meelfabriek (Verder met de binnenstad, 2012).

Categories

WL of obsolescence and waiting condition

Main focus

Recycling of a former industrial building, creating a new life-cycle for the building and its surrounding areas.



IN THIS PAGE:

Historical pictures about Meelfabriek.

Image source: De Meelfabriek, date of access 18

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Keys strategies and developers

The developer Ab van der Wiel bought De Meelfabriek complex in 1998 in order to preserve and redevelop it. The complex has now become the most significant remaining piece of Leiden's industrial past. It is both a historical landmark of the city and an important document of the industrial heritage of the Netherlands.

A competition was organized to collect proposals to bring new life to the complex which was laying dormant since 1988, inaccessible to the public. The complex was to be opened to the public, acting as a centre and offering new urban energy to the surrounding neighbourhood. New uses were to be found for it and a concept for the preservation of the valuable parts of the historical monument was to be proposed.

The competition was won by Atelier Peter Zumthor & Partner from Switzerland. The same office then went on to develop the Masterplan in collaboration with the authorities of the City of Leiden and the Rijksmonumentendienst, the Dutch department of cultural heritage. In October 2007 the Masterplan was approved.

Peter Zumthor's Masterplan consisted of an urban renewal project and in the construction of new buildings⁴⁷ It was to be a centre for the residents of the City of Leiden, in which there would be amenities and services provided for residents.

In 2014 it was established that David Chipperfield will realize the Meelfabriek project in substitution of Peter Zumthor. He will give a different interpretation of the Masterplan proposed by Zumthor. New residential buildings for students will be realized as well and they will be managed by the society DUWO.

Evaluation

The Masterplan approach has not been performing well and therefore it has been mostly unrealized. This factory is no longer used for what it was created. For this reason it is necessary to give it a new meaning. Today the Meelfabriek is used for arts and cultural initiatives. For example, in September 2013 the Meelfabriek was opened for a special exhibition of contemporary art with the support of the Lakenhal Museum.

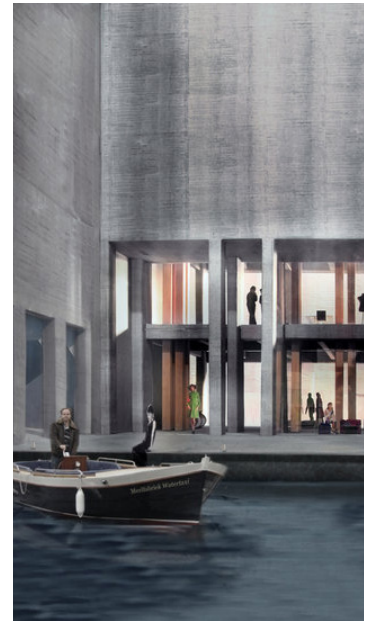
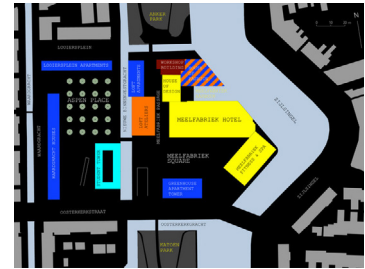
In June 2014 the location was used for an art/architecture installation 'WikiHouse nl'. The city of Leiden has procured a loan from Triodos Bank and is paying the costs.⁴⁸ Today we have to switch our view of a general situation of scarcity of economic resources to consider the abundance of values like creativity, social energy and knowledge as alternative resources to recycle urban parts like the Meelfabriek, transforming it into an icon of the city.

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48 For further information see: <http://www.vanderwielbouw.nl/>



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Peter Zumthor's Masterplan for Meelfabriek
Image source: De Meelfabriek, date of access 18
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Peter Zumthor's Masterplan for Meelfabriek

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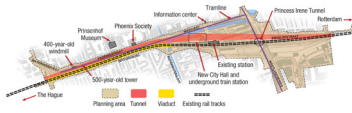
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Art installation in Meelfabriek

Image source: WikiHouse, date of access 18 February 2015, url: <http://www.hollandwikihouse.nl/2014/06/wikihouse-staat-buiten-vanaf-21-juni-te-bezichtigen-in-leiden/>



DELFT | STATION AREA



Time line: history of the site and its renewal

“The area around the historical centre of Delft, where the railway, shunting yards and factories are located, are being rapidly freed up for new uses” (van Duin, W. Floet, 2005: 14).

The station area is in-between the large-scale character of contemporary society and the structure of the historical urban fabric (van Duin, W. Floet, 2005). For years Delft has been working on replacing the old station building with a railway tunnel. The tunnel improves the spatial relationship between the historical centre and more recent expansions. Leo Boekestijn (Councillor of Municipality) has researched the possibilities of re-using the existing Delft Station, studying Busquets’ Masterplan. This was realised in 1999 after winning the competition for designing the Masterplan. According to Boekestijn’s idea, the old station can be transformed into a Design Centre. Busquets’ plan gave a vision of urban redevelopment for the railway zone and outlined how the tunnel could be built and how the resulting public space could be renewed; it represents the basis for all the plans that were implemented in the following years. Joan Busquets was very involved in the preparation of the Masterplan in 2003 and in the re-zoning in 2006 of houses, offices, green spaces, water, railways, roads and parking. The Masterplan is focused on: blending the different urban areas with the structure of the old town, with links from east to west and from north to south; creating new amenities for the contemporary city: water, green and public spaces; and developing a hub for public transport. Different modes and routes in the area around the railway station will be realised: cycle paths, trams, buses, taxis, cars, trucks and emergency services. To summarise, the major project themes for the redevelopment of the railway zone in Delft are: the re-design of the old station building; the project for a hybrid building built above the new underground station, and finally, new public spaces. Designed by Mecanoo architects, it is notable that on the north side, the new station building, is combined with new municipal council offices. The station hall and municipal offices, located above a new underground train station, will be a new landmark in Delft. The square in front of the station will become a place for public interaction and a place ‘to stay’ where there is an opportunity to socialise and not only a zone to cross going to the station, creating a link between the station and the historical centre of the city; The Masterplan considers also the creation of a green park for the city and underground parking. New residential buildings will be realised in the central and southern parts of the Railway Zone.

IN THIS PAGE TOP:

Masterplan Delft Station Area

Image source: ‘Spor Zone Delft’, date of access 15 February 2015, url:<http://www.sporzonedelft.nl/>

BOTTOM:

View of the Delft Station Area

Image source aerial photo: ‘Strukton’, date of access 16 February 2015 <http://www.strukton.nl/projecten/>

Image source: ‘Mecanoo’, date of access 11 February 2015, url:<http://www.mecanoo.nl/Projects/project/52/Municipal-Offices-and-Train-Station?t=0&p=1>

IN THE NEXT PAGE:

Image source: author’s photograph, January 2015.

Categories

WL of obsolescence, infrastructure

Main focus

Re-using old buildings and creating new connections with the city through new public spaces.





Keys strategies and developers

The costs for the tunnel and for urban regeneration are partly funded by Department of Transportation who has made a contribution of about 330 million Euros. There is a contribution from the Ministry of Housing, the province of South Holland, The Hague Region, the City of Rotterdam and the Delft Municipality.

The construction of the railway tunnel is related to the development of the regional railway zone. The Municipality of Delft recovers some of the money needed from the sale of new houses, offices and services. Of the areas influenced by the station, Bacinol 2 is an interesting example of the recycling of a former industrial building, built around 1930. Today it is a creative incubator for architects, artists, designers, photographers and web designers.



Evaluation

The recycling of the residual area left over by the burial process of the railway track is happening at the same time as the realisation of the tunnel. This transformation makes it possible to imagine a new life-cycle for the area, with better integration the inner and outer parts of the station, breaking the perimeter of the station area and creating new public spaces. From the perspective of Dutch railways Delft was a bottleneck in the train system, thus they wanted to improve the situation, primarily through laying the train tracks in the tunnels underground. In regards to the economy of the area, the Municipality of Delft and the other investors aimed to make more profit from this high potential area, creating new facilities and related job opportunities.

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IN THIS PAGE:
Bacinol 2, former industrial building now creative
incubator and restaurant
Image source: Bjornd Makelaardij, date of access 16
February 2015,
url: <http://www.bjornd.nl/nl/verzamelobjecten>



DELFT | ART CENTRE

Time line: history of the site and its renewal

The core of the Art Centre Delft is a former farmhouse from the nineteenth century that was restored. Art Centre Delft was realised with private investment since 1997, in collaboration with the Foundation Land Art Delft project, Delft University of Technology and the Foundation World Art Delft. The aim of the project is to preserve the value of this cultural landscape with its characteristic dikes and meadows and to maintain its intriguing history for future generations, transforming it into an art landscape.

Categories

WL of agriculture

This project is a good example of the recycling of WL of agriculture into a recreational landscape.

Main focus

Creation of a social gathering place where nature, art and people merge into one.

Keys strategies and developers

Private investment and sponsors

Evaluation

A place where art, nature and hospitality go hand in hand.

Website

-Art Centre, date of access 17 February 2015, url: <http://artcentredelft.com/over-ons/>

FACING PAGES:

Image source: author's photograph, August 2014.



SUMMARY AND EVALUATION

AMSTERDAM

The polluted site **De Ceuvel** is undergoing a continuous process of re-cycling. This project can be considered as a good approach to WL of contamination. It combines the reclamation of the soil with the prevision of compatible uses while it is in the process of being decontaminated. In addition it allows for the revitalisation of the area to act as a catalyst attractor. The main idea on which it is based is to occupy the area for ten years with the aim of its decontamination, giving back a fertile soil to the City of Amsterdam.

The project for **Overhoeks**, former Shell area, aims to give a new site back to the city, available for new living opportunities. The project for Overhoeks represents an excellent example of a public-private partnership for the redevelopment of a former industrial area.

Inside the inner core of the dense city of Amsterdam we can find a large amount of **Vacant Office Buildings** (and also whole districts) that are becoming empty because of the crisis. Some bottom-up “spontaneous” initiatives are occupying them, showing that an alternative to demolition is possible. It is accomplished through temporary reusing to give a creative and cultural character to the buildings.

THE HAGUE

The **New Binckhorst** recycling process being realised through bottom-up activities, public and private funding, giving attention and value to what already exists and to the demands of people that already live in the area. The idea is to reconnect Binckhorst to the city centre, creating new public spaces. This project/process can be considered a valid example of the flexible regeneration of an inner city industrial area.

ROTTERDAM

Nowadays, Hofplein, an area located on the Northern side of Rotterdam, has lost its position of centrality for the city, being dominated by empty spaces and main traffic arteries. The project for the renewal of this site includes two main aspects: firstly, the re-functioning of the **Schieblock** building; secondly, the realization of the **Pompemburg Park** construction in the neglected plot in the Northeast corner of Hofplein. Until 2009, Schieblock represented 8.000 m2 of vacant office space in the centre of Rotterdam. Today, it is a place where several activities and experiments happen. The building is connected to various urban areas by a temporary pedestrian

wooden bridge, realised mostly through crowdfunding. The bridge, called Skybridge, is 390m long and it creates a connection between the central part of Rotterdam and the Northern side.

The project **Agniesebuurt** aims to regenerate the old infrastructure (the built parts) and its relative open spaces, improving the quality of public spaces, particularly the northern parts of the city of Rotterdam. The objective is to re-inhabit the arches creating spaces in which creative activities happen. The project is based on socio-economic, cultural, historical and commercial studies.

Stadshavens, the old part of Rotterdam harbour, is becoming the promoter of creative development for the entire city through the transformation of disused harbour areas. A fast recycling of industrial heritage through creative incubators is what is happening in these parts of the city. This is made possible thanks to a shared strategy that involves many actors and stakeholders in the transformation process.

LEIDEN

The **Meelfabriek** is a project of redevelopment and urban renewal. For this area, considered to be in a state of transition, a new life cycle is being imagined: from former industrial buildings to new spaces for social interaction. Today we have to switch from a general situation of scarcity of economic resources to consider the abundance of values like creativity, social energy and knowledge as alternative resources to recycle urban parts like the Meelfabriek, transforming it into an icon of the city.

DELFT

The transformation of the **Delft Station Area** makes it possible to imagine a new life cycle for the area by better integration of the inner and outer parts of the station, breaking through the perimeter and creating new public spaces.

The project for the **Delft Art Centre** is a good example of recycling of Wasted Landscapes of agriculture, becoming a recreational landscape, where nature, art and people merge into one entity.

IN THE NEXT PAGE:

Table 2 - Comparison between the Dutch examples analysed.

RE-CYCLING DUTCH WL	TYPOLOGIES OF WASTED LANDSCAPES (WL)						CASE/LOCATION	YEAR	ACTORS	TIME	KEYWORDS	
	obsolescence	contamination	agriculture	infrastructure	waiting condition	dereliction						social segregation
Re-cycling buildings							Meelfabriek	Leiden	2007 to the present day	Public investments	Temporary uses	Building restoration, urban Regeneration
							Stadshavens	Rotterdam	about 2002/2004 to the present day	Bottom up activities and private investments	Permanent uses/ Temporary uses	Connection port-city, sustainable mobility, recycling of the industrial heritage
							New Binckhorst	Den Haag	2006 to the present day	Public investments Bottom up activities	Temporary uses	Industrial area, urban regeneration
							Vacant Office Buildings	Amsterdam	2006 to the present day	Bottom up activities	Temporary uses	Regeneration, reusing
Re-cycling landscapes							De Ceuvel	Amsterdam	2012 to the present day	Bottom up activities	Temporary uses	Decontamination, appropriation of the site by people
							Art Centre	Delft	1997	Private investments	Permanent uses	Land-art, landscape recycling, recreation
							Overhoeks	Amsterdam	2002 to the present day	Public/ private investments/ Municipality	Permanent uses	Redevelopment former industrial area, Reuse of a de-contaminated area
							Pompenburg Park	Rotterdam	2009 to 2013	Crowdfunding strategy	Temporary uses	Connection of different parts of the city, catalyst element for further developments
Re-cycling infrastructures							Station Area	Delft	2003 to the present day	Private investments Municipality of Delft	Permanent uses	Reusing old building, new connections, new public spaces
							Agniesebuurt	Rotterdam	2006 to the present day	Private investments Rotterdam Hofpleinlijn crowdfunding	Permanent uses	Reuse old building, new connections, new public spaces

2.5. Working with Wasted Landscapes: conclusions

WL are places with a great propensity to be repeatedly re-adapted and transformed, characterizing in different ways by the specific local situation in which they can be found.

The Netherlands, and in particular the western area of the Randstad conurbation, is a very interesting case to be studied to delve deeper into the problem of WL. In principle, this chapter was organized to answer the sub-question of how Dutch land use planning policy prevents the formation of large amounts of WL. This question was answered by giving a brief overview of the Dutch land use planning. Afterwards, through a selection of design examples, it was shown what strategies were adopted to recycle WL.

The Randstad conurbation has been compared, in the first section of the Chapter II, with the Neapolitan metropolitan area according to the followings points:

- (I) the **shape of settlements** can be described as fragmented, complex, diverse/heterogeneous, disperse and porous. Indeed in large peri-urban areas, the settlements are discontinuous, suspended in a condition in-between urban and rural; here different functions are simply juxtaposed without being really interconnected with each other and without sharing any facility; in peri-urban landscapes urbanized and industrialised areas are mixed with a rural landscape. Both the Italian and Dutch conurbations examined show problems in: mobility, pressure on rural areas, environmental problems.
- (II) the **economies that produced settlement patterns and infrastructures** are different in the two analysed areas. Regarding the Randstad conurbation, it is economically stronger than the Campania Region, indeed it is the largest economic urban region in the European Union (EU) after Paris, London and Milan. In addition, the situation in the Campania Plain is exacerbated by illegal and criminal organizations that have been an important element in the organization of the territory and in the local economy;
- (III) the **territorial metabolisms and building/landscapes life-cycle** in Campania generate a large amount of WL due to diverse problems. Among others factors, WL are linked to infrastructures that, simply overlapped the territory, do not contribute to the creation of a regional polycentrism; adding to the crisis of the industrialised areas that nowadays are quite empty, having been partially or totally abandoned. On the other

hand, in the Randstad region the agricultural industry, that has been a financial superpower at an international level, strongly influenced the structure of the territory.

In the second section of Chapter II, Dutch hybrid landscapes are presented as places in which specialized areas for mechanized agriculture, glasshouses, leisure parks and other facilities shape an ordinary landscape. In the Dutch context, peri-urban spaces, that are becoming increasingly urbanized, are characterized by a mixture of functions and by a heterogeneity in the spatial organization: warehouses, farmhouses, houses, roads, deposits for trucks coexist in the same area creating new visual and functional interrelations.

An overview of Dutch land use planning is provided in the third section of Chapter II. Dutch land use is shaped by various influences, including, the behaviour of citizens that moderate their impact on the land according to the rules. Indeed it is possible to distinguish a public interest in the way in which the land is used and with a particular attention on public spaces. The spread of settlements in the Netherlands is strongly influenced by the necessity to make the land drier before urbanising it; this process is very expensive, if compared with the other countries. Therefore, it is considered too complex for one person to build on unserviced land and so the majority of settlements are built in integrated developments. This fact contributes, in addition to the land use policies, to the avoidance of a large presence of WL in the Dutch landscape since each area that is already urbanized represents a useful resource, even from a economic point of view.

The projects we discussed in the fourth part of this chapter are examples of re-interpreting WL in the Dutch context. Through the study of the Dutch cases, the presence of different WL and some possible strategies to recycle them were analysed. They are positive solutions to seek to address similar problems in similar future contexts.

The only unquestionable thing is that everything changes and it has a cycle of birth, growth, death and decay (Bishop & Williams, 2012:5). This is the reason for which the concept of territory⁴⁹, asking architecture to be stable and withstand the test of time, is no longer enough to describe and interpret contemporary cities. We do need the landscape lens (Waldheim, 2006). Landscape is continuously changing, asking urban design to be flexible and to be able to modify itself in a dynamic way. Landscape is something not well defined in time and it is shared by many (Ricci, 2012: 10). In this respect successful renewal interventions for re-landscaping and recoding of existing fabrics understood as WL are important to mention because they are a way of giving new sense to parts of territory no longer useful for their original function.

49 The idea of territory to which I refer to here was elaborated in the second half of the last century, cfr. A. Corboz, *Il territorio come palinsesto* in Casabella, *Electa Milano* 1985, cit. in M. Ricci, M. (2012) *Nuovi Paradigmi*, Trento: ListLab.

After the 1960s, the **industrial restructuring** generated enormous redundant areas in the European context. Nowadays, vast areas of vacant lands in certain urban areas can be seen, that usually are located in strategic positions near the city centre. Particularly, disappearing industries created problems of vacancies and abandonment, very often leaving polluted soils and industrial structures in need of rethinking.

To that extent, examples like **De Ceuvel** and **Overhoeks** in Amsterdam, **Meelfabriek** in Leiden, **Binckhorst** in The Hague analysed in the chapter, show how a new future for these areas can be imagined. Among others, one of the possible strategies to re-generate polluted soils caused by industrial activities, is the one used in De Ceuvel where, owing to particular plants that operate a depuration of soils, and through a temporary use of these areas, it is expected that in 10 years this area can be given back to the city as a new possibility for future developments.

Port-cities have been a central theme in the architectural debate in the last decades. In particular it has addressed the issue of the renewal and re-use of whole disused areas at the end of their life-cycle. This process began around 60 years ago when containerization completely revolutionised world trade. Therefore, there was the need for more space in the ports, moving several activities into other new areas and buildings; at the same time, this process led to the abandonment and shrinking of the entire area. Indeed, nowadays, vacancies in the port areas can be found. Ports have lands lying unused that usually are located in strategic positions not far from the city centre (Bishop & Williams, 2012:24).

Rotterdam, for instance, suffered from the shrinking of the former port areas, such as **Stadshavens**, available now for new activities and re-functioning. Bottom-up activities, together with the support of city authorities and other stakeholders, are examples of strategies used to recycle vacancies in Stadshavens.

In contemporary European cities, the relationship between **infrastructures and the public spaces** related to them is very often problematic. This is true for both used and unused infrastructures. In many cases they represent interruptions in the continuity of urban flows. In correspondence to huge infrastructures like railways, highways and viaducts, open spaces are frequently characterized by ugliness, loss of identity and urban dynamism.

Public spaces in **Pompenburg Park** and in the **Agnesebuurt district** in Rotterdam, have been regenerated, through interventions realized thanks to crowdfunding and bottom-up activities, to re-vitalize and re-connect urban spaces. These examples show that adaptivity and flexibility are needed in the regeneration of our 'Liquid modernity' (Bauman, 2000) that is characterized by political, economical and environmental uncertainty and by an increasingly more frenetic life.

In addition, the Masterplan for the **Delft station area** represents an example of how an infrastructure in-use can be transformed from an element of separation to a public space, capable of re-establishing new connections between different urban areas.

“Office building vacancy is becoming an increasingly visible part of the cityscape” (Remøy, 2010: 252), particularly in the Netherlands. The combination of the economic crisis and the demand for new and attractive buildings for offices lead to the abandonment of obsolete buildings.

An alternative to the demolition of redundant office buildings can be accomplished by temporary uses. To that extent, in Amsterdam, creatives, designers and artists in general find a breeding ground to start their activities, and in low-cost and informal ways to recycle, for instance the **Volkskrant building, Surinameplein 3335, HW10,** and **ACTA**. This happens also in others Dutch cities; among them it is interesting to note the case of **Bacino 2**, a former industrial building, is now a creative incubator for architects and creative designers.

In the Dutch context, **former agricultural areas no longer in use** for cultivations have become recreational landscapes; an example of this is the **Delft Art Centre** in which a meaningless area was re-landscaped as a place for leisure.

The majority of these projects are based on the idea that shops and other commercial activities must be located on the ground floor of buildings, on the street level and with the concept of mixed functions that Jane Jacobs argued in her book *The Death and Life of Great American cities*, in 1961. Her concepts are today understood as the most important prerequisite for sustainable and liveable urban design (van Timmeren 2013: 3).



CHAPTER III

IMPROVING THE QUALITY OF CONTEMPORARY CITIES

The philosopher Henry Bergson called disorder order that we can not see or understand (cit. in Venturi 1977: 52).

The Neapolitan conurbation, the area between Naples and Caserta and the coastline called Litorale Domitio, is a deeply compromised territory, from an environmental point of view and because of the significant influence that criminal organisations have in the area (Laino 2013: 5). This territory is suspended in a state in-between “*beauty and threat*”:

“The specific dealing with nature has created an area of tension between beauty and threat that is not given by nature in itself, but is a result of the way urbanization is regulated. Illegality, and hence the widespread breaching of rules and regulations that allows for higher profits, has to be understood as a constituting element of the planning system of the Naples region” (Kastani, Schmid, 2013: 32).

In the Campania Region, the number of potentially contaminated sites is 2551. These are waste landfills and areas in which there is an unchecked deposit of waste and where productive activities are located. In this region there are also 6 Sites of National Interest (SIN), that cover wide areas in which the presence of pollutants have been detected. It has emerged that the 15,8% of the entire region is polluted and there is a total of 2.157 km² of contaminated area in the Campania Region alone (ARPAC, 2008).

These are very relevant statistics if we consider that polluted areas are only a part of what is included in the wider concept of WL, as I previously defined. WL include not only polluted areas but also abandoned open spaces and vacant edifices at the end of their original and planned life-cycle.

This chapter aims to understand what are the major reasons for the formation of WL in the Campania Region, examining two exemplar case studies within the broader case of Campania Plain. Through them, strategies for re-cycling WL are presented.

Even if at different scales and with different approaches with respect to the Dutch design examples previously outlined for the re-cycling of WL, the two cases proposed here can be compared with them through the approach to WL, their understanding and modification through redesign.

In the Dutch context WL are rarely abandoned spaces and left to themselves

IN THE PREVIOUS PAGE:
Image source: author's photograph, Casaluce (CE),
February 2013.

for a long time; in the case where there is a state of dereliction it is possible to register a quick re-generation of WL through different strategies. They are sometimes spontaneous and bottom-up activities; in other cases they are planned activities also supported by public authorities and other stakeholders. Generally, citizens are also involved in the renewal processes.

In comparison in the Campania Region, WL are usually left without a shared project for their renewal and very often, for this reason, they are places forgotten by the authorities and become the object of illegal practices, compromising their environmental and spatial integrity. That is why for WL in the Campania Region innovative design approaches and re-cycling strategies are needed.

The work I propose in this chapter investigates the city of Naples and its related metropolitan territories, through the presentation of two research projects, even though they were elaborated in different times, different contexts and at different scales. Nonetheless, they share a common ground in the respect that they are parts of the wider case study of the Campania Plain.

The two cases are organised following the chronological order in which they were elaborated.

In both case studies the approach utilised considers the project as knowledge⁵⁰, interpreting the territory as a 'field of possibilities' (Viganò, 2010: 173), re-thinking and re-presenting WL through the lens of landscape through which we can see and describe the contemporary city (Waldheim, 2006).

The objective of the projects is to present new scenarios and new ways to re-use the discarded landscapes in each of the areas examined:

“Public space, the system of open spaces, the fabrics of space of eco-logical value, fragments of landscape, the value of the assets, parts and lines of the infrastructure system, abandoned buildings, friches urbaine e industrielle, wasteland and brownfield, fragments of inter-stitial urbanised countryside, the patchworked, marginal spaces of the délaissé, nameless spaces among the great infrastructure areas, including railways and under big viaducts: the kaleidoscope of these disparate and often conflicting pieces of the contemporary city represent the nature of the changing land. They create disorientation in the perception of space and can find meaning only if connected to broader and more comprehensive interpretive images, of landscapes, networks and impressions of the city” (Russo, 2014: 39).

The specific themes addressed in the two case studies of the Campania Region deal mostly with the WL caused by the urban dispersion of settlements in peri-urban areas, generated by illegal practices of space appropriation and due to the continuous process of abandonment of agricultural fields. These particular topics define the image of this landscape in a suspended state of beauty and degradation.

⁵⁰ For a better explanation of the issue 'Project as knowledge' see Annex 3, 'Reading and Design contemporary cities'.

The re-interpretation of WL and their projects creates the substrate that keeps together and creates a link between the two examined cases, giving us the opportunity to make comparisons between them.

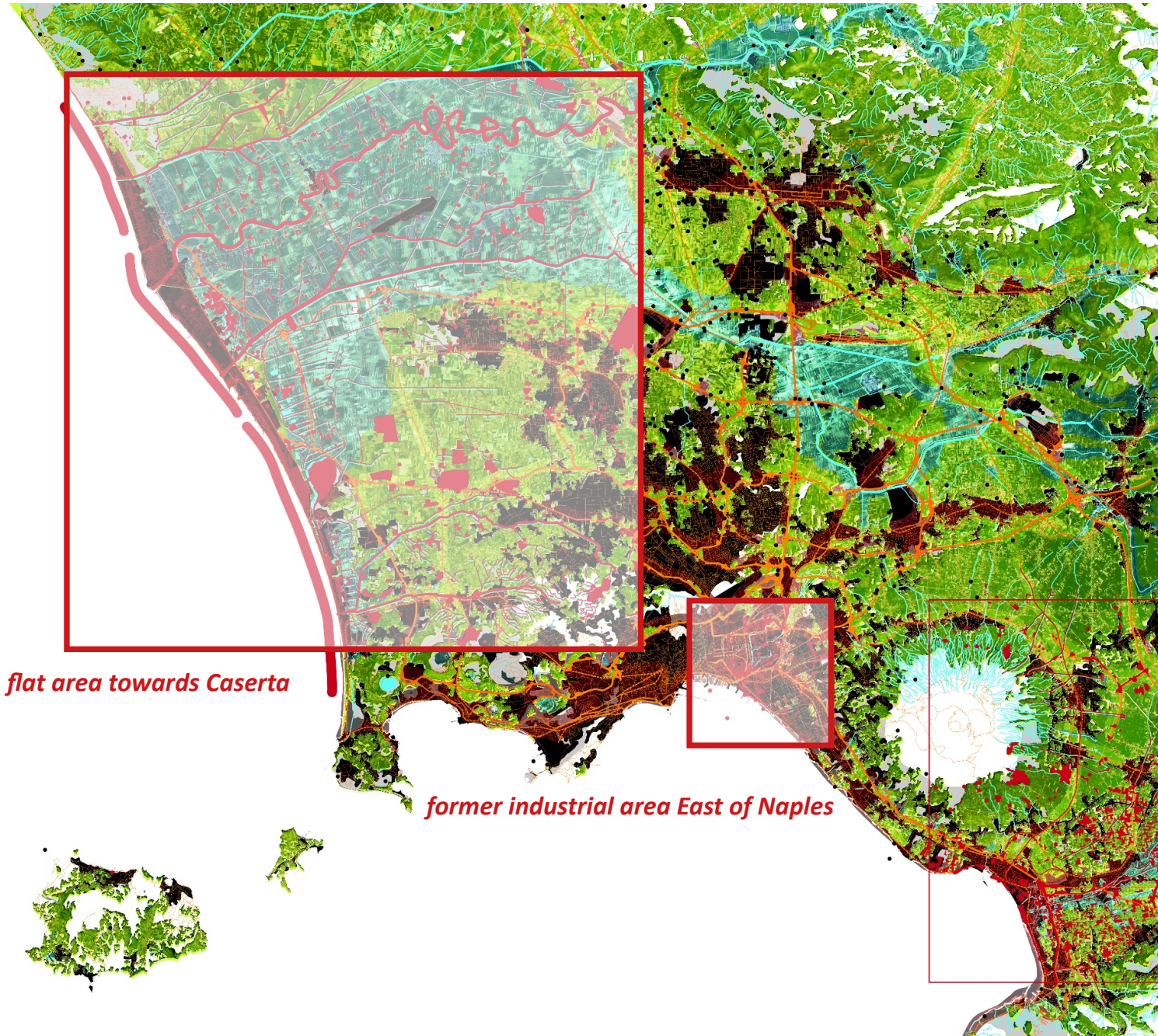
The following work could be considered as a story that attempts to re-interpret the image of the Campania Plain, creating a background to the scene and becoming the foundation for contemporary transformations (Fatigati & Formato, 2012).

This work concerns the urbanisation of the province of Caserta, and the study of the Eastern part of Naples. It takes into account the state of both places, through the description of the characteristic landscapes can be observed there, and than it imagines changes through the proposed strategies.

The city of Casaluce is part of a larger conurbation polarised by the axis that connects Naples and Caserta. It is one of the wider and problematic Italian metropolitan areas, characterised by an extraordinary presence of historical and landscape value and, at the same time, it is affected by the processes of increasing urbanisation of the territory, exacerbated by economic problems and marginality and also by social degradation. Even if the extension of the city of Casaluce is not that large, the problems discovered and studied in this area can echo those of a larger metropolitan dimension. The Campania Plain can be also considered as a pilot case for studying the general trends of the urbanisation process in Italy, taking into consideration all the local differences that are evident.

East Naples symbolises the post-Fordism city, in which urban functional retractions, abandonment, marginality, functional specialisation, and degradation of the public space should be added to the particular landscape that is generated by the infrastructures that cross the territory in a problematic way. This situation is in opposition to other aspects of the city of Naples that is delineated by still visible historical traces, and a deep sense of identity and permanence that persists in the kaleidoscopic urban configurations of Naples. East Naples represents a very interesting territory for urban projects. It is necessary to understand that spaces and places that form a status of WL can represent resources for potential transformations towards having a possible future (Russo, 2012: 144).

This work, without claiming to be in any way exhaustive, although it deals with many problems that are characterising contemporary territories, is only a starting point for a debate on the contemporary problems in the Campania Region, and it makes no claims to completeness.



flat area towards Caserta

former industrial area East of Naples



FACING PAGES:

The Campania Plain as a case-study

Image source: author's re-elaboration of the drawing realized within the Research Group of the unit of Naples, PRIN Research Program 2012 'Re-cycle Italy. Nuovi cicli di vita per architetture e infrastrutture di città e paesaggio'.



3.1 Re-cycling Wasted Landscapes in the Campania Region

As stated in the previous chapter, the problem of WL in the Campania Region is the result of serious social and governmental problems. In addition, criminal organisations such as the Camorra are affecting the process of urbanisation of the Neapolitan metropolitan area, operating, among others in illegal practices, an illegal dumping of toxic waste in the territories surrounding Naples. The urbanised area around the Vesuvius volcano is constituted mostly of illegal construction that, as in other Italian territories, has been regularised by the two amnesties decreed in 1985 and 1994. These laws contributed to the increase in the development of illegal constructions instead of stopping them. It follows that the territory became very highly populated and almost completely urbanised despite a large number of regulations created in an attempt to stop further constructions. Even the National Park established in 1995 to protect the Red Zone of the Vesuvius volcano, was unable to avoid illegal constructions. It has emerged that, in the period between 1995 and 2003, about 800 structures have been built illegally in the national park and, of these, only 30 have been removed (Kastani, Schmid, 2013 et al., 2013).

The result of this situation is that, on one hand, there is a territory in which a large amount of WL is recognisable but, on the other hand it is a porous territory characterised by an adaptive resilience⁵¹ (Davoudi 2012, cit. in Laino 2013). Of course, it is important to focus on the gravity of the situation by doing a specific analysis, but it is also necessary to *“deconstruct the tragic image that several scientists, politicians, reporters and magistrates have constructed”* (Laino 2013: 5) focusing on the potentialities that our territory still offer:

“[...] Si tratta di tornare a fare inchiesta, reinventando narrazioni con l'ambizione di adottare qualche categoria necessariamente elaborata in contesti particolari e specifici. Tenendo molto presente i migliori contributi offerti da autori che operano in altri contesti ma cercando anche di elaborare con coraggio immagini originali” (Laino, 2013).

In Campania the recycling of WL can represent ways to reactivate urban metabolism for the areas that nowadays, under the two processes of growth and shrinkage, as happens all over Europe, are fragmented and present problems related to the standard of living, to soil pollution, to the spatial quality of the territory and to the economies of the region. *Reversing* the way we look at WL means to emphasise the ecological and economical potentialities that they provide for sustainable regeneration of cities and landscapes.

51 For a definition of ‘urban resilience’ see Annex 4.





**Not adequate waste disposal,
landfills, waste management
processes influence the ecology
of the landscape**

(reduction of the productivity of the soils; compromise the biodiversity in peri-urban areas; make slow or very difficult the natural regeneration of environmental regeneration of environmental resources; influence negatively the metabolism of waste landscapes; influence negatively the human health).

FACING PAGES:
Image source: author's photograph, Casaluce (CE),
February 2013.

3.2 The Campania Plain as a case-study

In recent years, the increasing and uncontrolled urban dispersion, the de-industrialisation, the illegal dumping and the abandonment of the agricultural areas in the Campania Region have created an accumulation of WL.

This section proposes an interpretation of urban expansion in the Campania Region exploring, in particular, the territories of the City of Casaluce, a little town in the province of Caserta. This is a conurbation geographically belonging to the Aversa territory, in which the phenomena of the dismantling of urban fabrics or transformation of agricultural areas in urbanised territories are interwoven with the illegal spread of new urbanisations and with the loss in attractiveness of the historical centre that is actually becoming increasingly empty. In addition, the spatial domain of large infrastructures generates spaces that have no intentional relationships and are not integrated with the city and the territory (Choay 1992, cit. in Pavia 2002: 56). Casaluce belongs to a wider and problematic territory represented by the Campania Plain.

The topics presented here are part of ongoing research in the Department of Architecture of Naples⁵².

In the analysed territory of Casaluce, the settlements that are located outside of the historical city, where the traces of the centuriation of the countryside still remain visible, can be read and interpreted as parts of a unique widespread conurbation, that holds together, almost without interruption, the urbanised territory of Aversa. Casaluce town is an emblematic case of urban dispersion in the Campania Region. It is possible to recognise the common characteristics of dispersed contemporary cities: extension, dispersion, urban-rural hybrid and generic landscapes. All these features generate WL, spaces that are difficult to classify. A new 'taxonomy' is necessary to classify these new urban models, for which the classic category of 'city' is insufficient (Font, 2005: 11).

In this territory, urban dispersion and the organisation of the territory through different accumulations of enclaves with different functions and nature generate a

52 This research is part of an agreement between the Department of Architecture of the University of Naples and the City of Casaluce, for the preparation of studies in support of the New City Plan for Casaluce. The scientific director of the Convention is Professor Michelangelo Russo. I am part of the research team and my work is focused in particular on the study of the urban regeneration of dispersed urbanisations and WL. In addition I elaborated photographic representations and, together with the other researchers, the graphic representations. The city plan is available at: http://www.comune.casaluce.ce.it/index.php?option=com_content&view=article&id=488%3Aapuc-approvazione-rapporto-ambientale-preliminare-e-preliminare-di-piano-avvio-consultazioni&catid=80%3Aavvisi&Itemid=1, last date of access: 25 March 2015.

large amount of WL. In this case-study it is possible to identify many typologies of WL as they have been previously defined.

Urban metabolism, similar to what happens to a living organism, produces waste that should be re-interpreted as material for urban projects. Re-cycling WL is a necessary strategy for the contemporary urban project that aims to turn waste into prominent structures (Ricci, 2012: 27). Through more flexible approaches, it is possible to re-create new value and a new direction for existing artefacts.

In urban peripheries there are new self-referential settlements, containing different functions and organised according to diverse specialisations. These settlements are characterised by different densities, aggregation rules, relationships or functional and social separations with contiguous areas and also additional areas that generate an urban scenery that is immensely changed when compared with the past. An accumulation of fences makes the experience of the city very fragmented and discontinuous. The city appears like a sequence of enclosed and fenced off areas: new 'heterotopias' (Foucault, 1994): supermarkets, petrol stations, nightclubs, airports, theme parks, etc. This involves the formation of spaces in-between, that are residual and unused spaces between one enclave and another:

"The city is experienced in a fragmented way, through fences, through points; only some of them become 'places' and assume identity. You cross a city with 'no places', moving from one fenced area to another" (Pavia, 2002: 45 – author's translation from Italian).

The rapid horizontal growth of cities generated a sharp reduction in non-urbanised areas, causing the disappearance of the boundaries between city and countryside. Much of the land remained as the 'waste' of rapid urbanisation and is not clearly defined or stable. The future appearance of the city depends on the reinterpretation of all the interstitial spaces of the landscape; it is necessary to identify waste, potential problems and opportunities inherent for reuse. We find a multitude of WL scattered in various ways throughout the territory; the contemporary city can be considered then as a 'palimpsest of scrap and waste' of horizontal urbanisation.





3.3 Casaluce: chaotic and diffuse city

Naples can be considered as a diffuse city, spreading out into the plain towards Caserta. This model of growth without boundaries, a process that is still in progress, is not sustainable since it results in the inevitable leftovers of the rapid and uncontrolled process of urbanisation becoming WL.

New terminologies, for example 'città disfatta' (Sernini, 1988), 'città diffusa' (Indovina, 1990), 'spreco urbano' (Bevivino, 1991), 'sprawl' (Ingersoll, 2004), tried to define the vast modification of the traditional urban form to express the new demands of life in a contemporary context, identifying the end, without the possibility of return, of the traditional city (Benevolo, 2011).

The continuous conurbation that is shaping the Plain is constituted by different poles, which are distributed along the axis that connects Naples with Caserta. This distribution of settlements generates a multi-centric structure that, however, did not become polycentric, since the connections in between the different centres are weak and it is structurally 'decayed' (Benjamin, 1955). Indeed, certain areas, quite dense and containing different functions are juxtaposed with 'empty' spaces that have no sense or purpose, becoming waste of the urbanisation process (Berger, 2006).

In this kaleidoscopic territory, public spaces, historical and archaeological sites, fragments of landscapes, abandoned areas, disused buildings, WL and polluted sites, and peri-urban interstitial areas coexist. They create a sense of disorientation in the perception of spaces and they represent the evidence of changes in land-use (Russo, 2014). In addition, the interstitial areas in between the infrastructure axes, that don't make sense in the landscape, are generated by a sectoral and/or engineering point of view. They become elements out of context representing, sometimes, insuperable barriers (Amenta, Formato, 2013).

These paradoxical spatial conditions can be found all over the world but in the Campania Plain, where the Neapolitan widespread conurbation extends⁵³, they assume extreme proportions.

Casaluce is a city, exploded in a chaotic way, from the '60s and is still expanding, with 10,000 inhabitants, and with an extension of 9 square kilometres of flat area. It is part of the conurbation of Aversa, as indicated in the Piano Territoriale di Coordinamento Provinciale of Caserta (PTCP Caserta). Soil consumption and the disposal of both the historical centre and the industrial area are affecting its territory,

53 The City of Naples has an extremely limited extension, amounting to about one-tenth of the extension of the municipality of Rome. However, the real extension of the contemporary metropolitan area of Naples is composed of the conurbation that occupies the Plain toward Caserta, in which about three million people live. It includes about one hundred municipalities distributed among the provinces of Naples and Caserta.



IN THIS PAGE:
Casaluce, ortho-photo and map with the individuation (in blue) of the illegal settlements along the street Via Limitone, author's elaboration, with the research group of the Department of Architecture of the University of Naples, Scientific director Professor Michelangelo Russo.

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Image source: uthor's photograph, Casaluce (CE), February 2013.

in which the urban situation is negatively affected by the complete absence of any planning control. Spontaneous and illegal contemporary settlements, developed on the edge of the ancient centre, are now abandoned and are consuming the formerly very fertile agricultural land. Nowadays, the desertification of agricultural areas has occurred due to the rising of the underground-water level. In addition it is polluted because of landfills and/or illegal dumping above ground, transforming this formerly valuable landscape into WL of agriculture. Logistic platforms and large areas dedicated to container storage are shaping the territory, generating another kind of WL that is influenced by the huge infrastructure network created in the economic boom years with funding from the 'Cassa del Mezzogiorno'.

The result is an ugly territory, without identity, that is disconnected, where barracks are indistinct from residential buildings and the quality of the built environment is low and does not reflect its functions. Public spaces are almost non-existent, as there is no relationship between the different urban areas, the inhabitants and places. This is the result of a lack of a shared planning strategy for the city where the streets, symbolising public spaces mismanagement par excellence, very often are not even paved and they dissolve into the fields that are now in a state of balance between being a desert and a swamp due to rising underground water levels making them more and more arid.

The Palace of Carditello, is a site that is distinguished by artistic and architectural beauty, despite the fact that it is abandoned. With its baroque features, it is in contrast to the landscape that is slowly dying, while new small structures continue to be built.

The ease of the construction of new production facilities creates the great industrial platform, the ASI area, located east of downtown Casaluce, which is even less attractive to investors who prefer to urbanise new areas in the countryside rather than clash with the rigid bureaucracy of the industrial areas.

However, in the palimpsest of Casaluce there are still traces of the Roman centuriation called 'Ager Campanus II'. This system was used by the Romans to measure the area. Among the mass of historical settlements, which still exist, there is the Norman Castle, built around 1300 and unfortunately compromised by improper renovation interventions.

IN THE NEXT PAGE:

Image source: author's photograph, Casaluce (CE),
February 2013.

PUBLIC SPACE OR OPEN SPACE?

The territory of Casaluce, without an identity, is characterised by the urban dispersion that shaped it through the years, instead of a shared urban planning; the transformations of the territory have followed an uncontrolled individualism (Bianchetti, 2003).

The binomial public/private space is not useful for describing these places. Within this area the relationship between private space and public space is completely altered since the latter is often of poor quality because, especially in the peri-urban spaces, but even within the city centre. It is conceived as an open space that is possible to occupy, without followings any regulations, with objects of discordant themes. Instead of a concept of public space, here we can find a trivial concept of open space. In this territory, the public space, a labile element in the urban form, requires a transformation and regeneration in terms of operation, maintenance and diversification of functions and meanings. This new growth model represents a way to satisfy a need for a better quality of life that is needed in these places.



WASTED LANDSCAPES IN CASALUCE

Wasted Landscapes of dwellings

The urban expansion of Casaluce that has happened in the last 40 years is an expansion of historic areas. It is possible to distinguish three main stages of the urbanisation of Casaluce: the first consists mainly of courtyard houses near the old centre; a second more recent phase, developed through the use of isolated buildings in lots, oriented following the lines of land division of the 'centuriation'. In these areas the public spaces and other facilities are simply limited to public streets and side walks. The more recent third phase of expansion consists of single-family residences or other buildings isolated in lots, developed opposing the provisions of the current PRG (the former Municipal Plan) that are waiting for amnesty or have already obtained it. Rarely is it possible to find on the ground floor of houses multifunctional uses contributing to local economies such as shops or laboratories.

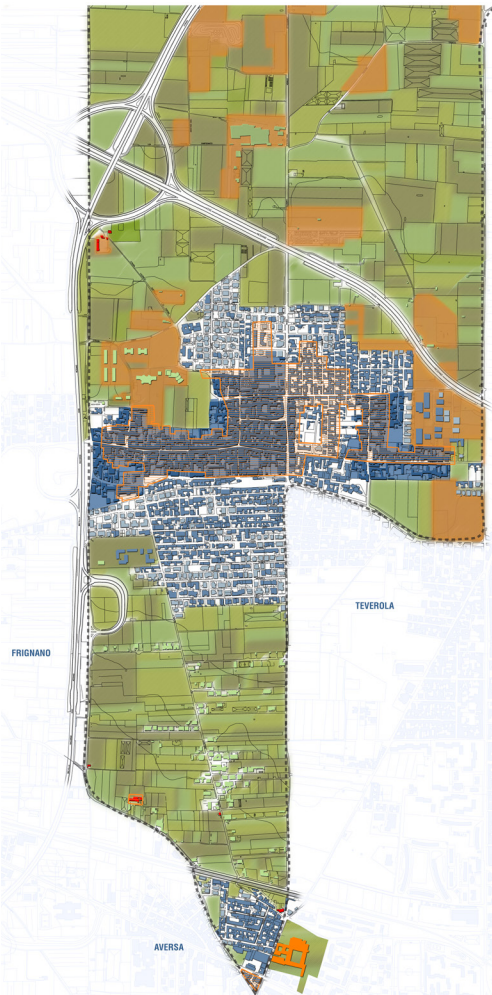
A succession of detached houses, always with the same design, and having no more than three floors above ground, erodes the open space that is becoming increasingly residual. The public spaces and the spaces for social interactions in general, in these areas, are replaced by shopping malls, that establish themselves as out-of-scale objects in the territory, accessible only by private car. Emblematic of these places is also private car-ownership and the almost total absence of public transport that generates a separation between individuals and urban places that are for pedestrian of little interest, ugly and even unsafe. Here the public space consists of streets and squares bound by walls with surveillance cameras on top, as a symbol for the desire to close off the public urban spaces and with the aim to defend the private space.

Wasted Landscapes of illegal processes

In the Southern area of Casaluce, outside of the ancient centre, a latent city developed (the original term in Italian was 'città latenti', in Zanfi 2008) made up of spontaneous and low-density settlements, characterised by low levels of physical quality. It developed in contrast with the prevision of the City Plan of 1986, that identified these areas as Agricultural Areas. These peri-urban fringes are lacking in public spaces and infrastructure networks.

Single-family houses were mostly developed with outdoor facilities resulting from a strong individualism and from a lack of a shared design vision. This common and low quality landscape affects the global image of the entire city.

Building urban fabrics without the involvement administrative authorisations became in this territory a usual and quite safe urban practice, promoted by the guarantee of avoiding penalties and, if needed, the construction could be regularised later (Zanfi, 2008:59), translating into deregulation being a common activity, with serious repercussions in the public sphere.



- Nuclei di antico impianto (al 1890) 
- Nucleo storico individuato dal PTCP (al 1951) 
- Manufatti isolati antecedenti (al 1956) 
- Città compatta con prevalenza di edifici a blocco 
- Città compatta con prevalenza di edifici isolati 
- Città diffusa con prevalenza di edifici isolati con bassa struttura urbana 
- Aree critiche urbane 
- Confine Comunale 

Wasted Landscapes of waiting conditions

Just outside of the centre of Casaluce it is possible to find some multi-family residential buildings, resulting from illegal authorisations (cancelled by the municipality administration, in the meantime put under temporary receivership for camorrist infiltrations, while the works were in progress). They remain unfinished and in a suspended condition because of having been seized by the Judiciary.

Wasted Landscapes of agriculture

The agricultural landscape of the Campania Plain is in a state of suspension between degraded areas of WL and valuable permanence of precious agriculture. Within the former agricultural areas, which today are defined as peri-urban hybrid spaces, it is possible to identify several degraded areas, defined in the Territorial Coordination Plan Provincial of the Province of Caserta as 'aree negate' - 'denied areas' in English (cfr. Ptcp: De Lucia et al, 2012) without a uniquely defined function.

Fragments of agricultural areas are compressed in between the different manufacturing enclaves, in which numerous interstitial and abandoned spaces act as a buffer, creating confusion in the interpretation of the places that lie in between cities, understood as urban periphery, and the valuable countryside which reminds us of the old productive Campania Felix. In addition, in these places, rural dwellings are now in the form of ruins.



IN THIS PAGE:

Image source: author's photograph, Casaluce (CE), March 2013.

IN THE PREVIOUS PAGE:

Casaluce, urbanization stages
Image source: author's elaboration, in the research group of the Department of Architecture of the University of Naples, Scientific director Professor Michelangelo Russo.



RE-CYCLING WASTED LANDSCAPES IN CASALUCE

“We urgently need new ideas, new knowledge, new models and a new paradigm for what a city actually is. We need new techniques and new working methods, new forms of development, financing, organization and management. We need an agenda for the city” (Geemente Rotterdam, IABR, et al., 2014:2).

The changes that we can observe in diffused urban situations, such as the ageing population, the presence of new groups of immigrants, the reduction of public funds, the increasing cost of fossil fuels, highlight the unsustainability of the model of the dispersed city and requires a rethinking of the quality of low-density urban systems (Amenta, Formato, 2013).

Re-considering, re-launching and re-integrating the network of WL, that have a strategic value for the municipality of Casaluce but also for the wider surrounding area, in urban dynamics means to reflect on a series of strategies for development, such as:

- reflecting on the agricultural landscape, considering it as a large public open space;
- retrofitting and improving the density of illegal settlements through new services and facilities that are lacking, not necessarily building new settlements; this approach can be seen as an economic driver for the city;
- recycling activities inside the diffused urban patterns, re-integrating different social classes.

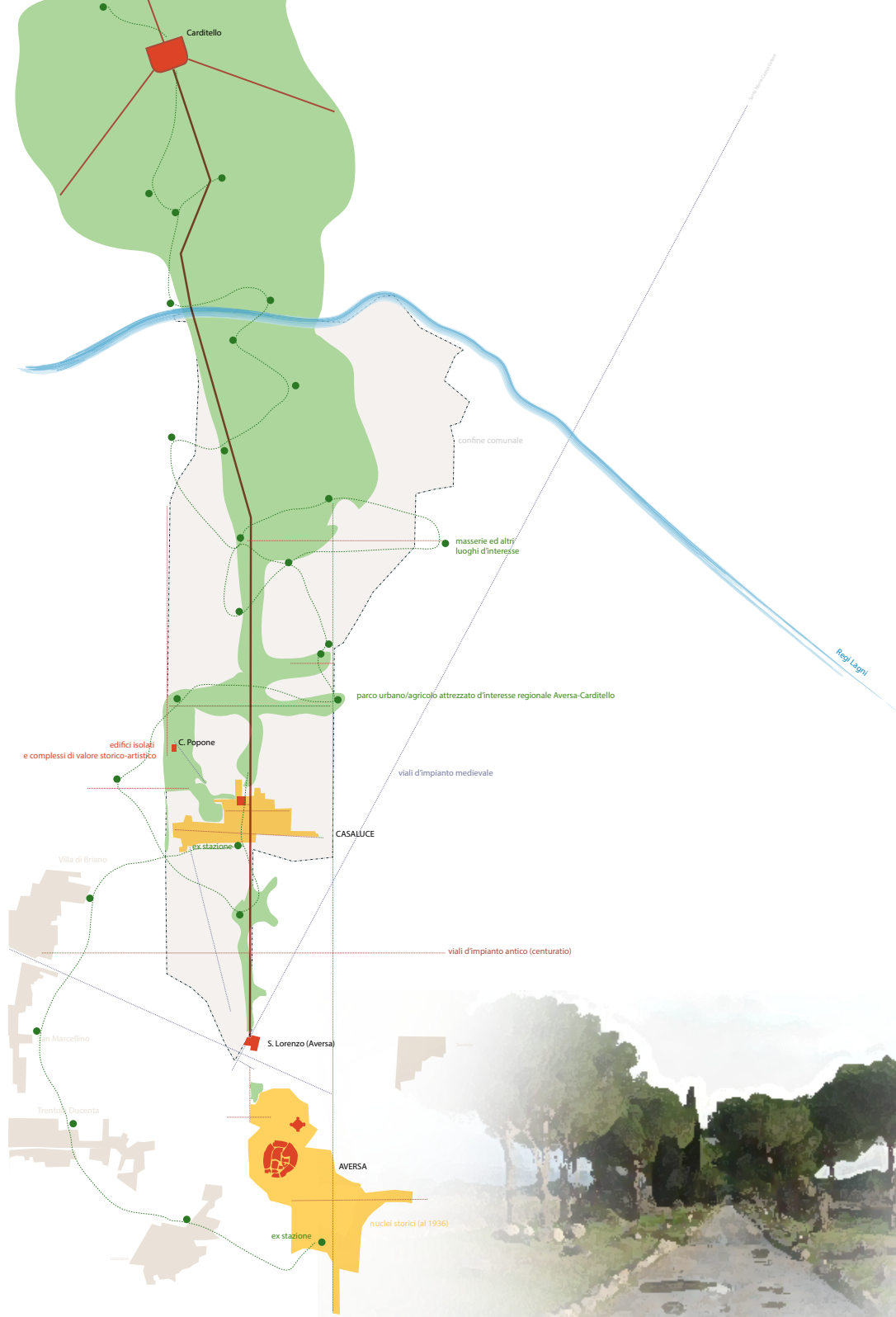
Urban regeneration and strategies for the renewal of the diffused city are needed. The consumption of agricultural land and the damage of peri-urban landscapes represent some of the negative effects that development has on our contemporary cities.

Peri-urban landscapes (Donadieu, 1998) are the most unstable parts of the territory and they are the most affected by transformation processes. This is due to peri-urban areas having more space available to build new constructions and it is also possible to realise houses with external areas and facilities with a low budget, answering in this way the demands of current inhabitants:

“the demand expressed by significant percentages of the population of a changing society, of new residential opportunities, with competitive settlement costs compared with the market in the concentrated city (where the scarcity of supply creates increasingly the common phenomena of gentrification)” (Russo, 2011: 117 – author’s translation from Italian).

Re-cycling of WL represents a new challenge for the new urban landscape proposing a network of open spaces and/or multifunctional areas for the contemporary

city by relating them to consolidated urban settlements, reassembling the mosaic of rural and peri-urban areas and, more generally, with the structural components of the urban landscape. Plans and projects should always provide a functional mix to achieve new ideas for the city where there are inter-relationships at different scales.



STRATEGIES TO IMPROVE THE QUALITY OF LIFE IN CASALUCE

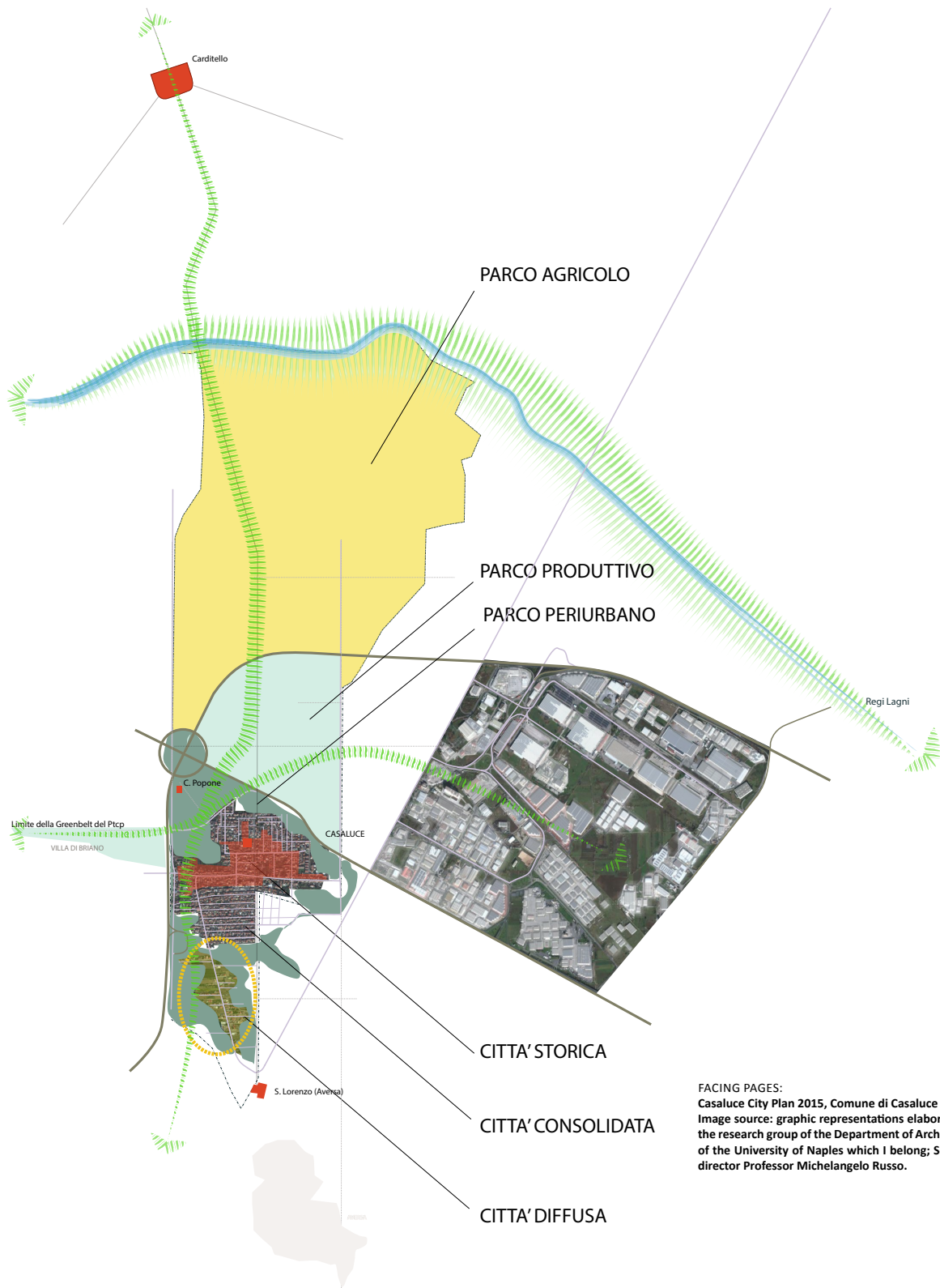
The proposed strategies involve different scales, from the re-thinking of the larger scale of the metropolitan area, including several municipalities, to the renewal of individual urban parts. Several times the project articulates these proposed strategies; they will be implemented in a medium to long term period but there are also actions that can be taken immediately in the territory (see the Preliminary City Plan for Casaluce, 2015). The approach is to reverse the approach for this territory to conceive open spaces as a resource, with a public purpose, to be protected and not urbanised but instead intervening with re-cycling techniques in the urbanised areas.

As stated above, the aim is to *Reverse* the perspective, through the combination of four design actions developed for Casaluce (cfr. Comune di Casaluce, 2015):

1. Valourising and re-connecting historical and cultural resources provides a link with the historical-landscape and archaeological remains (such as in Campania Felix). Creating a relationship through urban and landscape elements making it possible to identify new uses for the under-used parts of the city, for example the historical centres. If these centres were re-connected with the University of Aversa and with other metropolitan departments (for example the Court of law, etc.), they may become economically stronger and more attractive for citizens and investors. The historical centres can accommodate housing for students and residents reconnecting with new pedestrian and cycling pathways and the system of parks that constitute the 'greenbelt' (cfr. PTCP Caserta, 2012).
2. Development of agricultural and productive settlements to integrate city and countryside, through the new urbanisation of the 'denied areas' (cfr. PTCP Caserta, 2012) that are already compromised from an environmental point of view and located in the complex peri-urban area not far from the industrial site of Teverola. In this way there will be a preservation of the agricultural areas, with the urbanisation of the damaged areas. New facilities, realised without a real edification, will be redesigned to stimulate the public use of the peri-urban space; strategies to avoid 'spontaneous' transformation of the rural areas will be adopted. The necessary counterpart of this project is the natural colonisation of a part of the huge manufacturing platform, partly disused, created by ASI with funding from the Cassa del Mezzogiorno, that provides funding for the South Italy.
3. Urban and environmental regeneration and ecological connections are needed for Casaluce. The third proposition, related to the urbanised

IN THE PREVIOUS PAGE:
Casaluce City Plan 2015, Comune di Casaluce (CE).
Image source: graphic representations elaborated by
the research group of the Department of Architecture
of the University of Naples which I belong; Scientific
director Professor Michelangelo Russo.

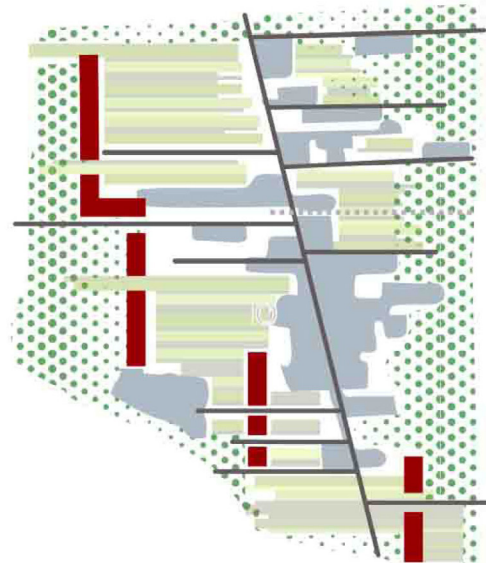




FACING PAGES:
Casaluce City Plan 2015, Comune di Casaluce (CE).
 Image source: graphic representations elaborated by
 the research group of the Department of Architecture
 of the University of Naples which I belong; Scientific
 director Professor Michelangelo Russo.

system, is based on the identification of incentives for the transformation of settlements. It is possible to identify three territorial units: urban, peri-urban and extra-urban. For the urban unit, regeneration of buildings and open spaces are necessary; in the peri-urban areas it is possible to realise new residential buildings at the edge of the consolidated city avoiding soil consumption; the extra-urban areas should be preserved and valorised as an agricultural park, implementing activities that do not need new urbanisations. Three different scenarios have been imagined to build new residential areas and facilities. For the spontaneous settlements, an integration into the mesh of the new urban condition, through a functional densification and a constitution of new public spaces in the neighbourhood, is essentially obtained by transforming the current road conditions for pedestrian and cycle paths.

4. The regeneration of the existing stock of buildings is needed in order to shift to sustainable buildings with less energy consumption.



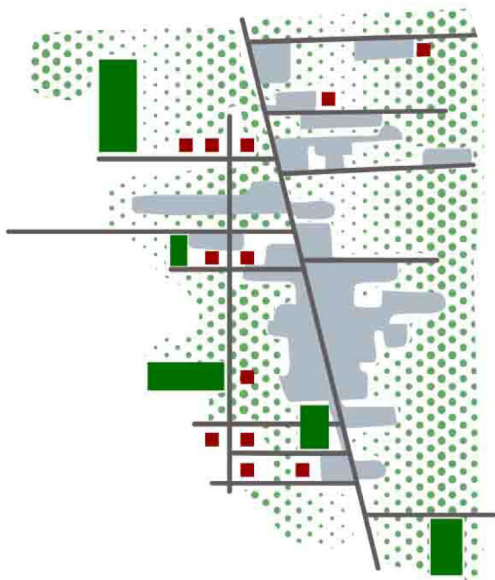
SCENARIO 3 DENSIFICAZIONE LINEARE
Completamenti insediativi al bordo del parco di corona

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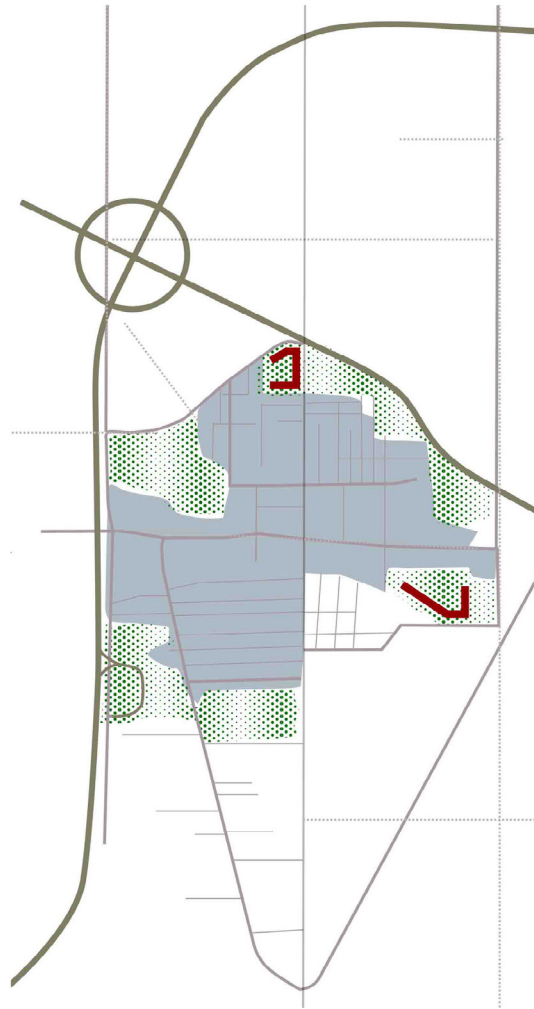
Casaluce City Plan 2015, Comune di Casaluce (CE).

Different scenarios for new settlements in Casaluce.

Image source: author's elaboration, in the research group of the Department of Architecture of the University of Naples which I belong; Scientific director Professor Michelangelo Russo.



SCENARIO 1 DIFFUSIONE PROGETTATA
 Completamenti insediativi dispersi



SCENARIO 2 DENSIFICAZIONE CONCENTRATA
 Completamenti insediativi al bordo della città esistente



3.4 A 'retro-active' conceptualisation for East Naples⁵⁴

In almost all the cities of the world, the urban growth is creating peri-urban spaces. The aspect of contemporary cities is changing and the difference between city and countryside is disappearing, generating a new peri-urban entity. The Italian and European urban dispersion is a different phenomenon when compared with the American sprawl.

On one hand, American urban sprawl is characterised by low-density residential settlements, one-family houses dispersed throughout the countryside and by large industrial patterns located near the infrastructural axis. On the other hand, the peri-urban condition is typical of the Italian and European contemporary hybrid landscapes, where urban and rural realms coexist. Residential areas, agricultural land and huge commercial buildings, in the form of 'big boxes', generate a heterogeneous territory dotted with large amounts of WL, abandoned industrial buildings resulting from the post-industrial reality and underused sites without regeneration programs.

The need to broaden the design issues related to the area east of Naples are connected to its condition of suspension between growth, seen as possible future changes, and the decline of urbanised parts and open spaces, identified as WL.

East Naples was the historic industrial part of Naples that nowadays exists in a post-industrial reality. In this territory the historical city, the industrial remains, the small manufacturing plants, the greenhouses, the 'public city' (Di Biagi, 2009), had ongoing or planned major projects that were developed independently without an overview. In this sense, East Naples can be considered as the result of a series of overlapping styles to which infrastructures were added, representing interruptions in the continuity of the area.

In this context the 'drawing of the soil' and a heterogeneous linking of the elements, is extremely important, (Secchi, 1989, 1993; Aymonino, Mosco, 2006 cit. In Fatigati & Formato 2012: 71).

The distance between different urban areas, the WL, the fringe areas are often spaces that are overlooked by urbanism in which we must start searching for new meanings (Russo, 2011; Russo, Formato, 2011). So residual open spaces, together with the recovery of underutilised or abandoned buildings, become the territory of a new urbanism that reverses the perspective of looking at contemporary cities to create new spaces in the public domain, originating with the already urbanised areas.

The economic crisis provides a good opportunity for architects and urban planners to invest in urban change. Re-cycling open networks (land, energy, transport, water, waste and food), and heritage buildings, is the starting point to transform urban spaces, through overcoming of sectional interests and visions of reality and the restoration of physical and social connections in urban areas.

⁵⁴ This work is part of researches, still in progress, developed in the Research of National Interest PRIN Re-cycle Italy at DiARC in Naples, of which I am a member of the Naples Unit.

The work regarding East Naples aims to answer three main questions: Are there alternatives to closure and abandonment? Is it possible to consider the re-cycling of WL as a new paradigm in contrast with the crisis of international finances and city models? Can the networking of residual rural-scape represent a new strategy to regenerate urbanised landscapes? (Formato & Russo, 2014)

EAST NAPLES AS A CONTEMPORARY METROPOLITAN AREA

Contemporary cities are today facing a process of expansion and dispersion, in fact, after a period of uncontrolled growth, we are faced with the “fear of the dissolution of the city” (Secchi, 2005: 5); while, paradoxically, as stated before, today’s cities are shrinking (Oswalt, 2006), they are losing population especially in the central areas.

East Naples is the emblem of the shrinking post-Fordism areas. New points of view, outlooks and different perspectives are needed for East Naples as it is now in a transition phase; it is different from the long process of disposal that has characterised it over time. In this slow phase of transformation the city is shrinking, uncovering WL. In East Naples, the areas of major interest are the ‘middle lands’ (Russo, 2012) between the various fanned out areas, which are spaces where major projects are being undertaken. Many areas in East Naples are currently in a phase of transformation, such as the Q8 area, which is a large former oil area slated for disposal, the Feltrinelli area, the Tobacco Factory, Vigliena and others. These projects, although showing a great potential for urban transformations, still remain closed within their own borders, giving rise to the formation of ‘intermediate areas’ for which there is no clear purpose or planned project. The ‘middle lands’ have a role and significance; they are not only areas unconsidered by the plans but rather they are areas characterised by uncertain statutes. But they are also areas with strong potential; their transformation can re-create the missing links between the different logistical sectors overlapping in these places. Working on these areas means re-establishing connections and restoring the continuity of the territory (Russo, 2012: 177).

These areas can be Considered as:

“liminal space, but also ‘liminal’ as a space (Zanini, 2000). Liminality is a psychological concept by the anthropologist Victor Turner: it refers to the mental state of initiates during a transition ritual. Liminal spaces are thresholds, surrounded by dissolving boundaries. Limits are thresholds too: they are not part of the inner city, but neither of its outskirts. They’re spaces of transition between the interior and the exterior of the contemporary city, places where liminality depicts a “no man’s-land” open to everyone (Zukin 1991, p. 269)” (Formato & Russo, 2014).

Working on the transformation of these ‘middle lands’ (Russo, 2012) means exploiting the porosity of East Naples that still exists in these areas, identifying them as a filter, and a resource to be reassessed to increase the meaning and value of public spaces.

WASTED LANDSCAPES IN EAST NAPLES

In the Piana Campana region, WL are shaping the territory. Several areas are in a suspended condition, in transition and looking forward to new design projects, ideas and uses. This is the case with the whole of East Naples. It is a territory in which there are lots of forgotten spaces, at an institutional but also private level. WL emerged throughout the years, at different moments during the dismission of these areas. These spaces have a strong capacity for urban regeneration.

Wasted Landscapes of dwellings

Dispersed houses are shaping the peri-urban core of East Naples. The quality of the architecture is always quite deficient. They are separated from public streets by high fences or gates. Public spaces are lacking in maintenance and quality. The dispersed city is living beside the 'public city' (Di Biagi, 2009). After the Second World War, until the end of the 1970s, the 'public city' has been built through consecutive mono functional additions located in the urban periphery of Naples and is today particularly destroyed. The huge urban neighbourhoods built by the public construction sector are on the border of the agricultural territory and at the edges of the irregular and illegal urban developments, built next to big infrastructures that cross the area. In these areas the public spaces are incomplete and there is a lack of public amenities. Here the sectorial way of understanding the territory is evident (Di Biagi, 2009: 26).

Wasted Landscapes of illegal processes

Illegal dumping is affecting a large proportion of the open spaces in the Eastern part of Naples. Waste is accumulating along the roads, and under bridges, making the area impossible to cross on foot, thus isolated and unsafe.

Wasted Landscapes of waiting conditions

The diffused city also usually generates abandoned and empty spaces, fences, uncertain spaces, parts of infrastructure, fragments of agricultural land that derive from unplanned, poorly designed and unmaintained open spaces. WL in the dispersed city are fragmented, degraded areas such as empty properties, strips, lots and a large amount of various in between spaces, that generate interruptions among different urban areas. WL are delimited by enclosed areas of specialised functions. It happens that these lands are left intentionally alone, as spatial reservations, until it is possible to develop them, waiting for new valuation.

Wasted Landscapes of infrastructure

The rigid infrastructural system is overlapped with the macro-gated enclaves, until you come to the spread out settlements area. This organisation of the territory

through multifunctional enclaves has given rise to a succession of enclosures that alternate with each other and characterise the roads system , devoid of urban character.

Wasted Landscapes of obsolescence and contamination

The economic crisis happening in recent years has changed the way of looking at discarded parts of territories that have now become economically and socially valuable. The re-cycling of WL represents a crucial step towards future socio-economic development. For a very long time sectorial policies considered the territory as being composed of pieces, not worth considering, and to say it in a better way, forgetting liminal spaces that became, over the years WL. East Naples is characterised by a very high presence of WL that are mostly the result of the de-industrialisation, as already stated before. It is necessary today re-think the remains of the industrial era, that area characterised by physical and social decay, combining this approach with an accurate consideration of the critical analysis of these shrinking areas in the wider territory.

WL are places that, for definition, remind us of and suggest the idea of re-cycling; they are defined by inefficient rules and laws, abandoned to a self-development that never translates to an improvement of the quality of places.

WL are forgotten by citizens, public administrations and urban policies; they are the result of the fast processes of life and growth of contemporary cities. The silence of authorities and the lack of urban planning and policies regarding WL, remains of the manufacturing industries, make them suspended landscapes, waiting for a different look and significance. In East Naples, what we can define as a *petroleumscape* (Hein, 2013), is a WL that is the result of the combination of contaminated sites and industrialised areas.

For instance, in the area East of Naples, sites that were previously used for chemical and petroleum plants have been closed for future re-use, due to their high toxicity (Formato & Russo, 2014).

Wasted Landscapes of dereliction

In the industrial area of East Naples the presence of WL, particularly related to open spaces and determined by the crisis in the different productive sectors, is a potential for a contemporary urban project. Open spaces represent a starting tool for urban regeneration avoiding further soil consumption, creating ecological re-connections of 'Third Landscapes' (Clément, 2003) and giving new centrality to the 'waste' of territorial systems (Lynch, 1990).

Openness relates to the ecological function of communities within their everyday territory, identifying their character as a basis for the commonalities of contemporary cities, building a sense of identity and belonging within the urban metabolism, as initially assumed by Jane Jacobs in 1961 (Formato & Russo, 2014).

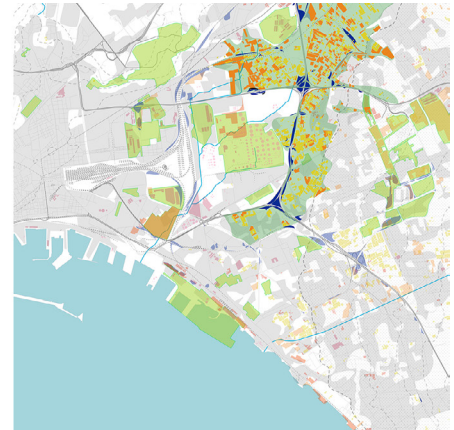
The new paradigm of re-cycling is putting urban ecology at the centre of the debate, creating new relations between the inhabitants and the open spaces that become, from this perspective, common goods.

Wasted Landscapes of agriculture

Among the different kinds of WL we can recognise agricultural WL that are located in the peri-urban fringe in-between the 'hard part', that is difficult to modify and intervene in, of the former industrial area, and other enclaves of big projects. This urban fringe could represent a strategic element to re-discover the tradition of agriculture in Campania 'Felix' (with the term Felix we want to identify with the ancient rural and very productive landscape due to the large harvest produced each year).

WL of agriculture are very often micro-areas that are abandoned and not valorised that could be immediately re-used to create a network to connect the urban fabric through temporary uses, clean canals and creating green ways. The project aims to support the re-creation of a "Third Landscape" (Clement, 2003) as a biological necessity.

WL of agriculture are residual rural-scapes, marginal areas ignored by real estate investors. Therefore these kinds of spaces are extremely interesting and represent an important economic and ecological resource to be exploited. In the peri-urban spaces it is possible to find a large amount of WL. Between them, WL of agriculture represent new possible forms of latent economies by imagining new landscapes.



IN THIS PAGE:

East Naples: aerophotogrammetry and land use
Image source: author's elaboration together with
the Research Group of the unit of Naples, PRIN
Research Program 2012 'Re-cycle Italy. Nuovi cicli
di vita per architetture e infrastrutture di città e
paesaggio'.

RECYCLING WASTED LANDSCAPES IN EAST NAPLES

We need to learn from the past, and to re-think the landscape we previously built on, to avoid further soil consumption and re-consider, changing our culture and lifestyles, the urban areas that are, nowadays, lacking in meaning or shape. I make reference to an 'intelligent' and 'illuminated' city in which, particularly in reference to WL created by brownfields and polluted areas, it is possible for material recovery from a previously existing built environment:

"In contrast (or in addition) to smart, intelligence comes from the Latin word 'intelligentia', or the ability to acquire, interpret, and apply knowledge. Something with intelligence has the ability to think (process) and understand instead of doing things automatically by instinct. Thus, the proper definition of smart should put an emphases on interpretation and application [...] intelligence should mean something that has the ability to vary its state or action in response to varying situations and past experiences" (Timmeren & Henriquez, 2015: 65).

Re-cycling these areas, through a multiscalarity approach, means to work and positively affect their life-cycles that are already or on the way to being exhausted. In addition, it means finding design solutions that will be dynamic and strategically adaptive, aimed at environmental sustainability (e.g., reduction of land consumption, carbon dioxide emission, on site materials reuse, etc.). Re-cycling also creates new economic opportunities, enhancing social inclusion, due to its bringing more attention to the production process and its indirect consequences.

Re-cycling WL aims to improve the existing resources: soil, water, land uses, nature and ecological relations, culture and local urban values, and last but not least the remains of industrial architecture. These resources require specific actions: ecological rules redefinition, ecosystem preservation and planned compatibility with new functions, etc. The fewer changes that are made and the less energy that is required to make them, make these interventions very adaptable to contemporary cities, in which you can change more, modifying less things (Formato & Russo, 2014).

STRATEGIES TO IMPROVE THE QUALITY OF LIFE IN EAST NAPLES

From Piana Campana to Campania Felix

The future of East Naples can be re-imagined in a cyclical way, through a new paradigm that sees the re-cycling of WL as a strategic action to re-discover the previous fertility that characterised the Campania Felix. In East Naples rural-scapes are fragmented and eroded by urban, low-density dispersion, by green houses, although actually non-intensively used. Residual agricultural areas are also mixed with other kinds of hybrid landscapes, for example parking lots, logistic platforms and the senseless criss-crossing of viaducts, generating WL.

As stated before, the so-called Piana Campana is a territory in which density and dispersion of settlements coexist, generating a chaotic structure, mostly due to illegal activities. It is composed of a high-density conurbation, extending between the cities of Naples, Caserta and Salerno.

In this territory, historical centres are connected with each other through continuous settlements, where hybridisation exists between urban and rural-scapes, generating a typical peri-urban space. It is possible to define the Naples metropolitan region as a multi polar structure, but not a polycentric region, since it is not based on efficient mobility networks.

“Campania Region has not an acclaimed tradition of spatial planning on regional and municipal level” (Formato & Russo, 2014). The spatial organisation of the territory is the result of different factors: sectional policies (infrastructures, production settlements, shopping malls, etc.), not integrated in the landscape planning and the negative influence of criminal organisations operating in the area. The tendency is to separate, physically but also visually, residential settlements from urban public spaces, for example parks, public facilities, open public spaces, etc. This negatively influences the quality of public open spaces that result in being fragmented and have low quality features.

Re-cycling marshes in East Naples towards new hybrid metabolisms⁵⁵

In East Naples 40% of the whole territory is occupied by WL (Formato & Russo, 2014). Re-using under-used or no-longer used spaces is an alternative to the spatial isolation and abandonment that characterise WL.

In the east-side of Naples different landscape networks overlap: the WL networks; the water-scape network; the infrastructural-scape. In addition, it is possible to identify different coexisting life-cycles: the industrial life-cycle; the agriculture life-cycle; the marshes life-cycle and the waste life-cycle.

Among them, besides considering WL as the key regeneration tool for the area, another element of primary importance in East Naples is the water-scape network. Water-scape, even if largely underground, is a main project theme, capable of overlapping with the sectional provisions of the local plan. In the East-side of Naples water represents a key landscape element since this territory derived from the reclamation of the marshes.

The network of WL affect both the superficial soil (for example illegal abandonment of waste on the sides of the streets, etc.) and the subsoil (for example the waste of industrial activities). Therefore the re-cycling process in East Naples should include the stratigraphy of soil, working at different depths; it should be resilient, maximising the use of natural resources present in the area; it should begin with pre-existing resources.

East Naples is an area that is part of the territory of the Campania Plain; it is named the Valley of the Sebeto river in reference to the ancient river (still present in 1400) that was transformed into a canal by the interventions of reclamation started in the 16th-17th centuries, when the history of the reclamation of East Naples began. The reclamation of East Naples can be described according to the following phases. In the 1400s the territory was characterised by the presence of marshes and woods; in 1610 there was the Regi lagni reclamation by Domenico Fontana that reduced the importance of the Sebeto river area and reduced the presence of marshes there. During the 19th century, the marshy Valley of the Sebeto river was completely reclaimed and transformed into a very fertile area, making it available for future industrialisation, which started at the end of the 20th century. In this period the area became the site of an important petroleum site, well connected with the road network and the harbour area. Through the years the soil was completely sealed.

At the end of the 20th century the disposal of East Naples began and the municipality took interest in taking this area back; the Municipal Plan in 2001 proposed to build new settlements and parks in the dismissed area.

Nowadays some plans are still not completed and the Valley of the Sebeto river seems to be an area of great interest in which it is possible to find a territory in-transition, waiting for a project with hidden potentialities for future regenerations. In

55 See also: Amenta L., Castiello S., Di Marco C., Formato E. (2014), Napoli est. Naturartificiale, verso nuovi metabolismi ibridi, Il territorio degli scarti e dei rifiuti a cura di Carlo Gasparrini, Rosario Antonio Pavia, Roberto Secchi, Aracne, pagine 163-169.

conclusion, East Naples today can be considered as a city in waiting.

The process of dismission here seems to be in a more advanced process of decay when compared with other areas of the Campania Plain, and Italy in general:

“The lifecycle of the urban and environmental system (industry, “blue network”, marsh) are largely consumed or in a crucial point of crisis. The planning at the municipal level (P.R.G. 2004) does not focus on the strategies to stimulate new lifecycle for the drosscapes and does not take in consideration the residual rural-scape and the others “in between spaces” (Formato & Russo, 2014).

In East Naples WL are sections of discarded areas that the city refuses and expels from its urban dynamics; they are characterised by different degrees of contamination. Through the mapping of WL in East Naples a Reverse Land comes to light. The design approach for East Naples is to intervene in the fragmented landscape recomposing it to re-discover the lost relationship between different urban areas and the interdependence between humans and the environment. In this area, almost entirely urbanised and consumed, in which there are abandoned industrial enclaves, technological machines, urban inhabited settlements and peri-urban areas, in juxtaposed layers.

A ‘retro-active’ approach to East-Naples

As stated before, water is a recurring element in East Naples. Indeed the water that was part of the ancient marshes, that characterised the territory until the 1400s, and was progressively reclaimed, is very slowly making a reappearance in the abandoned industrial areas as when it was marshland.

Also nature is coming back again in the forgotten spaces of the area. However, we should be aware that we are in the presence of highly polluted areas. East Naples is indeed included in the Italian Site of National Interest (SIN) for pollution.

The design idea is to rediscover the different life-cycles which have followed each other, constructing an inverse palimpsest, focusing on the green core of the rural-scape located outside the Urban Implementation Plan Boundaries, but also on the WL of industrial processes developed in the area and in other discarded areas.

It is a retro-active conceptualisation (Formato & Russo, 2014) to re-discover the residual tracks of past cycles, the remaining memories, cultures and local identities, looking for hidden project images, erasing the “ground noise” of hybrid landscapes (dispersed settlements, “in between spaces”, rural-urban fringe, etc.).

Time is also another important issue for the project, since it is possible to distinguish different temporal cycles in this region. The project strategy is to re-discover and re-propose the specific moment prior to the crisis of East Naples’ historic model: the marsh (1400), the reclamation of the countryside (1890), the industrial city (1966), the “waiting city” (2014).

The Re-cycling paradigm in East Naples refers to its past life-cycles, following an archaeological perspective and discovering ancient worlds. All these phases are important for the project and they exist together: the industrial past co-exists with the marshes; the residential future is connected to urban agriculture.

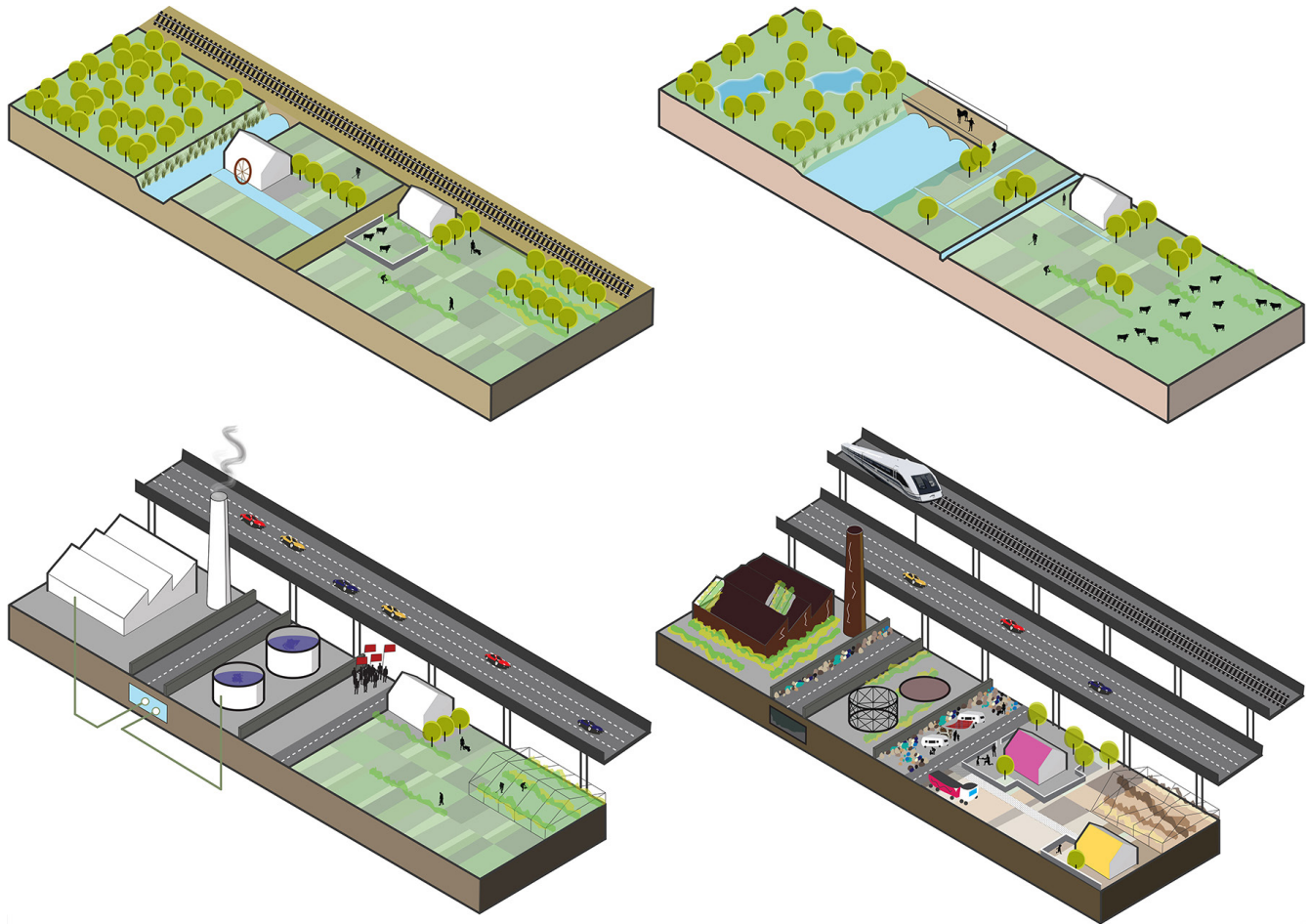
Landscape and open spaces are the new starting point to re-discover new urban organisation and social values for contemporary cities. First of all, starting from WL of the agricultural landscape, that are characteristic of liminality and of spaces in transition, it is possible to immediately start the regeneration of the residual, the discarded and forgotten (micro)areas that constitute an important potential for re-connections, through public temporary uses that encourage the formation of a 'Third Landscape' (Clément, 2003). Secondly, it is necessary for reclamation, in the traditional way of understanding, with technical purifiers, to recycle soils and create a new metabolism. These two approaches create a combination of natural and artificial elements.

In this project landscape is the main focus which is being worked on; it shows the following characteristics:

- liminality, i.e. a uniqueness, a peculiar attitude to transition; any use and development does not need to be considered as definitive and immutable, in order to save its dynamism, urban metabolism and social mix;
 - historical and environmental characteristics, in need of being correctly evaluated: it doesn't mean to slide into indiscriminate preservation, but rather to preserve its individuality, through the 3R system;
 - accessibility, its closeness to the city core, whose relationships encompass various scales, interweaving the local planning with the spatial strategies (Formato & Russo, 2014).

Improving the quality of life and the spatial quality in the peri-urban areas in the East-side of Naples, contained and compressed in-between the Urban Implementation Plan boundaries is the main objective of this research. The aim is to design new strategies to inhabit peri-urban areas, re-generating WL and following a resilient strategy. Re-cycling green and mineral spaces through the creation of urban cultivated land and urban parks, but also with the naturalisation of abandoned or under-used infrastructure is an efficient way to improve the quality of the open spaces as public spaces.

"In the Italian context, the case of East Naples within the wider case of the Campania Plain region case-study could be an interesting laboratory to experiment new challenges, using recycle networks as new planning strategies" (Formato & Russo, 2014).



IN THIS PAGE:
East Naples: a retro-active conceptualisation

IN THE NEXT PAGE:
Peri-urban spaces in East Naples

Image source: author's elaboration together with the Research Group of the unit of Naples, PRIN Research Program 2012 'Re-cycle Italy. Nuovi cicli di vita per architetture e infrastrutture di città e paesaggio'.





3.5 Improving the quality of contemporary cities: conclusions

The aim of this chapter was to identify the major causes for the formation of WL in the Campania Region and what are the possible design solutions to recycle them.

In the Campania Region the major causes of the formation of WL are mostly linked to urban dispersion and to the illegal urbanisation of the territory. In addition the de-industrialisation process is leaving large industrial areas partially or totally empty or in a state of dismission, creating a post-oil *petroleumscape*⁵⁶ (Hein, 2013).

WL are also due to the abandonment of agricultural fields and the contiguous built structure in the peri-urban areas of the Campania Plain. In this context the lack of public spaces is related to the abandonment of open spaces that are considered as marginal areas ignored by real estate investors and forgotten by public authorities. There are areas in which there are illegal buildings and in the context of the 'public city' (città pubblica-Di Biagi 2009), these spaces have no meaning and are characterised by an identity crisis.

The urban reality in the Campania Region is complex. Urbanism can not be limited to delineating or subdividing the territory into zones with different functions through rigid rules that do not adapt quickly to the urban change happening now. A way of planning, that is not capable of answering the new question of public space and able to share its objectives with the various stakeholders in order to reach a common goal, is not realistic any longer (Lucci, Russo 2012: 150-155).

Architects and urban planners are called upon to manage the space without a statute, without shape and function in the contemporary city. These places represent an unsolved question and they need a re-invention as a strategic alternative for the contemporary city.

The metropolitan area of Naples is densely populated. However open spaces, very often underutilised or abandoned, are also present in the landscape. They represent a resource to be preserved and valued; here agricultural activities have to be enhanced to avoid the abandonment of productive and fertile lands.

A new sense should be given to these 'void' areas (void of sense and function) through agricultural production, the environmental heritage being valorised, ecological preservation, rejuvenation of vegetation, the water network, transforming them into places for human interaction, in which a new relationship between urbanised areas and natural elements develop (Fatigati, Formato 2012).

Both proposed case studies, which work within the wider case study of the Campania Plain, focus on the idea of re-cycling open spaces with the purpose of creating networks of public spaces. The proposed approach is to valorise open spaces as a resource in itself that should not be urbanised, reversing the traditional approach

56 For the definition of 'petroleumscape' see Annex 4.

considering the urbanised part of the landscape as the object of transformation.

The Campana Plain, despite the intense development of infrastructure that affects it, has still preserved remarkable natural relevancies and it is still possible to build connections between residues of the diffused natural elements that are very valuable (PTR Campania). This limits soil consumption and provides the satisfaction of prioritising needs with new installations, production and infrastructure through reuse, working on the transformation of previously urbanised areas.

In conclusion, the key design strategies that are possible to identify in both Campanian cases are as follows:

- the built heritage, for instance historical monuments, historical city centres, archaeological ruins etc., should be recycled and made functional again as part of urban dynamics;
- abandoned open spaces, amorphous and without identity should be valorised to become new public spaces, in different forms such as parks, squares, cyclical and pedestrian paths;
- polluted sites that are the result of heavy industrialisation (ASI industrial areas, East Naples) or as a result of the illegal dumping of toxic waste should be re-generated and recycled to be, at a later stage, re-integrated in the agricultural activities still present in the area, even if they are residual and sporadic;
- finding new political instruments for promoting agriculture in these areas and for finding solutions to the problem of large agricultural spaces that now lie abandoned;
- time is an important element for innovative design strategies; indeed the time it takes to reclaim polluted areas or to re-generate ugly and disused buildings should be combined with uses that can be carried out in the meantime;
- finding new financial resources and stimulating initiatives to transform the existing settlements;
- realising green belts and parkways;
- re-integrating illegal buildings through the realisation of new public spaces for neighbourhoods and through a functional diversification;
- the creation of cycle paths and pedestrian ways to integrate the viability of the systems that already exist.

In the Italian context, the cases of East Naples and Casaluce, within the wider case of the Campania Plain, could be an interesting laboratory to experiment with new challenges, using recycle networks as new planning strategies:

“Naples is an extraordinary laboratory to experiment the contemporary urban project” (Russo, 2012: 144).

IN THIS PAGE:

PURE RESILIENCE

In the exhibition **PURE RESILIENCE**, photographs of urban nature – dragonflies over a garden pond, pigeons on a balcony, peregrines around Willemsbrug, Nile geese on Spoorsingel, ferns along a quayside – feature in a sweeping panorama of Rotterdam.

Image source: <http://iabr.nl/en/tentoonstelling/pure-resilience>, last date of access: 25 March 2015.



CONCLUSIONS

Resources are becoming increasingly scarce. The starting point of this research is that, at a time when there is a shortage of supplies, the current model of extensive global growth that we are experiencing is not sustainable any longer. Hence it is necessary to imagine a new model of growth, working on the transformation of what already exists. Considering also soils (particularly fertile soils and/or natural areas) as a non-renewable resource that needs to be protected, **the necessity for recycling Wasted Landscapes (WL)** is clear in European contemporary territories.

Reverse Land refers to the re-cycling of Wasted Landscapes as a way to re-establish the character of localities, places where the original uses and meanings have declined having left spaces for new life-cycles, to be developed in continuity with their original characteristics and local identities. This objective has to be achieved by, among other things, the adaptive re-use of buildings, urbanised open spaces and built structures in general for new contemporary demands, integrating different perspectives into the projects and looking at the contexts through different eyes.

In order to answer the main research question:

‘Can the recycling of WL be considered as a new paradigm for sustainable transformations of contemporary cities? If so, why?’

the dissertation has been organised into three chapters; each of them is structured with the purpose of answering one specific sub-question:

- 1. How the process of ‘metropolisation’ of the territory is related to the formation of Wasted Landscapes?*
- 2. How Dutch land use planning policy prevents the formation of large amounts of Wasted Landscapes in contemporary metropolitan areas and what are the strategies adopted to recycle them, if any?*
- 3. What are the major causes of the formation of Wasted Landscapes in the Campania Region and what are possible design solutions to recycle them?*

The key concept of **Chapter I** is to introduce the definition of WL and the ways they manifesting themselves in the territory, starting from a literature review, with the aim of answering the following question:

‘How the process of ‘metropolisation’ of the territory is related to the formation of Wasted Landscapes?’

WL are not created or designed intentionally. They are spaces that are not projected with attention, passion or care; WL are spaces that have been forgotten by

institutions and citizens, considered as a symbol of chaos and corruption and poor environmental and social conditions.

The formation of WL is a consequence of the explosion of the city that has created a disconnection between activities and urban spaces, between inhabitants and the environment, creating a hybrid form of the territory dominated by flows and no longer defined by a precise shape. Flows of goods, people, waste, energy, food, water, plants and animals modify the territory, with the natural consequence being the formation of WL. Indeed, the city, like a living organism, produces waste due to its metabolism. Working on the recycling of WL represents an innovative way to act on the environmental performance of contemporary cities and more generally to improve the quality of life for the people who live there, revitalizing the urban parts now forgotten or in a state of disrepair, even from an economic standpoint.

This negative perspective through which to look at WL is not the only possible one. In fact, WL have hidden fragments of beauty and value (environmental, economic, social, etc.) that must be preserved and enhanced by planners and architects. Through the study, it is shown that WL can be found either on the edge of cities and peri-urban areas, both within compact or historical city centres. WL are often inhabited by a 'wild' nature and by the unexpected presence of animals, that represent natural reserves to preserve, maintain and enhance as such, to ensure an ecological resilience for contemporary cities.

Each WL is different from another because its characteristics are derived from its history, its character, its geographical condition, from the actors involved in its development and from the possibilities of re-connections with the rest of the city. This could conflict with the hypothesis of common elements that define an abstract model of WL "type", that is proposed in this research. However, creating an abstract model to define WL has been useful to better understand the urban areas affected by this problem and to identify strategies for future developments, preserving and developing local identities.

In **Chapter II**, a comparative investigation between the Randstad and Neapolitan conurbations is proposed. In addition, an overview of Dutch land use planning is provided and a selection of different Dutch examples, facing the problem of WL in the Dutch context, allowed us to understand the issue and also to grasp the nuances of site specificities. These parts have been elaborated with the purpose of answering the following question:

'How Dutch land use planning policy prevents the formation of large amounts of Wasted Landscapes in contemporary metropolitan areas and what are the strategies adopted to recycle them, if any?'

In contrast with what happens in the Neapolitan context where WL generate networks of forgotten spaces that deform the city, **in the Dutch context, WL are**

only spots in the territory. Dutch land use planning is a very interesting model for understanding the reasons why Dutch territories are almost always used and WL are rare.

Many factors influence the result of Dutch spatial planning on the ground. Not only formal rules and organisations but also informal uses, the cultural traits of the Dutch people, and the physical characteristics of the Netherlands, which has about 24 per cent of land located under sea level, affect the way in which land is used. Formal planning powers are assigned to the planning agencies with the main goals of Dutch spatial planning being: economic welfare, social justice, amenities, and sustainability. In the Netherlands everything is planned and there is a project or an idea for every space. Throughout the years, the public domain took care of urban and rural spaces and did not leave anything unplanned or 'to chance'. The complex level of interaction that exists between the physical territorial sectors like agricultural, residential areas, public parks and water is managed by the Dutch people, through coordination with various government levels. In addition, the involvement of diverse stakeholders and actors and a coordination of the decisions by hierarchy helped the realisation of the high ambitions of Dutch land use planning. Public spaces and landscapes are mainly characterised by high quality features.

In this chapter it is also underlined how not only the aesthetic and morphological description of the contemporary urbanisation phenomena, only describing the spatial shapes and the form of urban patterns, is enough to accurately understand the structure of the territory. Indeed the shape of metropolitan areas is dependent, on one hand, on the physical shape of the territory, but, on the other hand, it is also deeply related to the economies and metabolisms that generated spaces and shaped places. To make a comparison between different European contexts it is useful to reflect on the followings points: (I) shape of settlements; (II) economies that produced settlement patterns and infrastructures; (III) territorial metabolisms and building/landscapes life-cycles.

This section also shows the approach to the recycling of WL, through the proposed Dutch examples; WL are of great value to the economy because, starting with the discarded urban and peri-urban areas, and thanks to temporary and/or bottom up activities, or through planning actions in which various stakeholders are directly involved, WL can become much more economically attractive for investors and citizens. The projects analysed here provide examples of specific design approaches for WL as viewed from an overarching perspective of landscape. The focus on the Dutch design examples has been useful for understanding the interconnected systems of social and economic aspects, public and private actors, policy and planning instruments, and how these interconnections are able to generate new cross-sectoral strategies for futures cities.

In **Chapter III** the Campania Region case-study is explained as a representative case in the Italian context. The **Campania Region** represents a **very interesting laboratory to experiment with the re-cycling of WL** that appear like networks of spaces available for transformation. In Campania the process of urban dispersion and ‘metropolisation’ of the territory, also made more chaotic and complicated by illegal urbanisation and the criminal organisations that are shaping the territory, generate a huge problem of WL. This situation is exacerbated by a sectoral vision of the territory, by the ecological crisis and by the waste of territorial and environmental resources generated by pollution and illegal dumping of toxic waste. In this way a lot of landscapes are abandoned, with a loss of function and of a role to play in urban dynamics. They are networks of discarded spaces, forgotten by administrations and citizens and very rarely does their transformation takes place; WL represent areas in which the superficial and underground water, soils and agricultural areas are affected by pollution; they are located at the margins of infrastructural networks and in the critical porosity of the dispersed city. In these areas environmental hazards can be found. WL in Campania represent potentialities for urban and landscape regenerations across different scales.

The thesis proposes the **recycling of WL as a new paradigm for sustainable transformations of contemporary cities**. This design approach can be considered as a complex tool requiring different ways of looking at the urban and peri-urban areas, through different scales utilising diverse knowledge coming from an **interdisciplinary approach**. The aim is to imagine new durable solutions and also to intervene in the short term, ensuring a fast re-cycling of buildings and open spaces that can be given back to the communities as new common and hi-value public spaces. The re-connection of the networks of WL through re-cycling activities is a way to recompose the fragmented archipelago of urban elements in contemporary territories. In the process of re-cycling WL the involvement of social activities, bottom-up interventions and temporary uses are tactics that can counter the effects of the economic crisis that nowadays is paralysing the design activities in certain European territories. The main objective of the thesis is to open up a discussion about the design interventions that may impact positively on improving the quality of life in urban and peri-urban areas.

The conclusion of this work does not intend to represent a resolution to a disciplinary debate or a way to simplify the complexity of contemporary cities, in the way in which it has been exposed and studied. This dissertation aims, in addition, to better understand contemporary urban processes, dynamics and flows that generate WL and to stimulate new reflections and criticisms of the argument. Indeed, the proposed theme does not intend to provide a unique method or theory to understand and interpret contemporary cities and their related problems linked to WL. The idea of this work is to promote a metabolic way of thinking: *“cyclical, iterative, fuzzy,*

beyond denominations of 'right' and 'wrong'. That is, thinking in design terms' (van Langen 2014, cit. in: Geemete Rotterdam, IABR, et. al., 2014: 18).

Therefore, the complexity of contemporary cities must be studied with this new way of thinking, transforming the current linear economies into circular economies, not thinking in terms of waste but understanding them as resources. In this perspective, Wasted Landscapes can represent the 'dark side of change' (Lynch, 1990) to be re-evaluated as possible resources for future change. WL usually hide new opportunities for urban and landscape regeneration.

The process of re-cycling WL can facilitate the construction of new common grounds, understood as public spaces for social interaction, promoting social inclusion. WL can be understood also as places characterised by continuity between networks and spaces, as well as places in which a new equilibrium between functions and new urban polarities can be created. The regeneration of contemporary cities, through the rehabilitation of landscapes as public spaces, can represent a new strategic perspective for contemporary urban planning (Russo, Formato 2014: 286). This is particularly true if we consider the process of re-landscaping of WL as a new way of looking at contemporary territories currently characterised by resource scarcity and the financial crisis.

A multidisciplinary approach is needed to understand contemporary cities as urban ecosystems in which authorities, architects and urban planners, citizens, associations, entrepreneurs, businesses, knowledge institutes and other stakeholders can work together with the aim to improve the quality of places and the quality of life. This work does not presume to be multidisciplinary in itself but it aims to encourage a way of reading and working in the present day going across different disciplines. The research started with the idea that contemporary cities appear like a palimpsest of WL understood as spaces that do not participate any longer in the complex urban metabolisms. Cities, like every living organism, produce inevitable waste. The challenge for urban planners and architects is not only to find a way to avoid waste, but also how to face up to a difficult task, and integrate waste into new and flexible design strategies.

In what I call WL the flows of goods, people, waste, biota, energy, and water are absent or compromised.

The main aim of the research is to show the necessity of re-interpreting WL in contemporary cities. It is essential to identify WL and the problems related to them but also to determine the intrinsic opportunities to recycle them. The title of the research intends to encourage a reverse way to approach and design contemporary cities. Modify, adapt and reduce the waste of land and resources are ways to possibly start a shift of paradigm that we need for the re-interpretation of the contemporary city.

The choice of a limited number of cases is due to the particular interest they show for the understanding of WL and of different ways of re-cycling them.

After the trans-national comparison between the Neapolitan conurbation and the Randstad region, it can be noted that in Campania WL create networks of discarded landscapes that require recycling. In Campania, WL are places of spatial and social degradation and are very often polluted or toxic places in which human health and the natural ecosystem in general are compromised. The processes for the recycling of these WL in Campania are very slow and very often do not exist at all.

In the Dutch case, WL appear only as spots in the cities, not continuous and they are discrete. The regeneration of WL in the Dutch context is very quick and creative. In cases in which there are no institutional initiatives to solve the problem of WL in the Netherlands, many bottom up initiatives develop to invent new uses for them.

Trans-scalarity is another important feature of the contemporary way to approach the problem of WL. A shift from the metropolitan scale to the neighborhood and building design is needed to find the solutions we need to recycle WL:

“recycling cities is an essential strategy that cuts across the scales and themes of the contemporary urban question: the environmental crisis and evermore frequent extreme phenomena, the progressive divide between rich and poor, forced or denied mobility that points towards new exclusions” (Fabian, Giannotti, & Viganò, 2012).

The framework for handling WL that has been traced through the thesis is an attempt to improve citizen’s hope and sense of belonging to places. It aims to stimulate architects, urban planners and authorities to move towards a process of growth intended as change instead of expansion considering limited natural resources (Russo 2014: XXI).

What we urgently need is a wider discussion about the correct tools for bringing the issue of re-cycling WL to the attention of public, political and economic awareness.

*“We know so little about what it really takes,
about how urbanisation actually works”*

(Bélangier 2014, cit. in: Geemente Rotterdam, IABR, et.al., 2014: 102).

ANNEXES

A.1 Low density urbanisation: roots, origins and models

*The travelling concept of sprawl*⁵⁷

As Françoise Choay stressed (Choay, 1992), during the 1950s and '60s there was a transition from the Modern compact city to the dispersed contemporary one. The crisis of the industrial economy in the United States, created a shift toward the diversification of consumer markets (Waldheim, 2006). The origin of urban sprawl was with the so-called American Dream (Adams, 1931) and it can be affirmed that in the United States suburbs have become the 'real city' (Corboz, 1998: 218).

The concept of sprawl travelled from the United States to Europe, where it inevitably went through a complex process of transformation, becoming different from the 'original version' (Lieto, 2013). There is a mythology of 'settlement patterns' travelling from one place to another; ideas, actors, rules, policies and practices move along heterogeneous networks of exchanges that mutate in their mobility. In this process of trans-national mobility of ideas and policies it is possible to recognise an 'origin' (the original context from where they arose), a 'trajectory' (which is the progressive experience of contextualisation) and a 'destination' (the new context in which ideas land as an object of a new contextualisation) (Lieto, 2013:1). When ideas arrive at a new destination they are inevitably transformed from the original version. Actually travelling ideas can be considered as myths.⁵⁸

Planning ideas can be exported as well. In order for a good planning idea to be exported, it must be characterised by a plasticity that allows it to be taken out of the original context and then it should be able to travel and gradually adapt itself to its new destination. Therefore low-density urbanisation in Europe can be considered as a result of the trans-national transfer of planning experiences, such as an Anglo-American model that is imported into a context that is different from the original (Basco, Formato, & Lieto, 2012).

From Olmsted's suburbs to Howard's Garden City

To sort and place in time and space reflections that produce the observation of the 'obvious low-density landscape', composed by detached houses with gardens, it seems necessary to start from the study of the American suburbs, from the Anglo-Saxon cottages and from the 'Garden City' (Viganò, 1999:156).

From the mid-nineteenth century in America the research about suburbs was

57 For the contents of this Annex 1 I referred also to Enrico Formato's researches about urban planning theories and models and to the booklet *Ruropolis, A strategic approach for the Dutch Province South Holland*, TU Delft.

58 There are two visions of modern mythology, interpretations of Roland Barthes and Michel Foucault. According to Barthes (Barthes, 1991) the myth is a miraculous evaporation of history, a depoliticized speech, a tool, a weapon to manipulate the masses. For Foucault (Foucault, 1998), the myth is a multi-strategy, a charter for social action (Lieto, 2013).

experimented with as a real alternative to the urban concentration. The Landscape Movement promoted the relationship between city and nature. Natural environments were introduced into the urban structure as natural parks. This relationship between city and nature has an ideologically anti-urban matrix with which suburbs are created in opposition to the hyper dense downtowns of the city centres and to the compact cities. The leading personality of the Landscape Movement was F.L. Olmsted (1822-1903)⁵⁹; he can be considered as a precursor of the modern revolution that inverted the sense of the city as being defined from a historical point of view. Olmsted conducted his activities when Europe was still far from modernity and far from the criticism of the contraposition of city/countryside. Olmsted's innovations in the urbanism field come into the modern landscape and urban planning, starting a research path from Howard to the present day. Among the themes of his exploration we can find the dissolution of the contraposition between city and countryside; the attention to the landscape design; the consideration of infrastructures as a landscape element; the interest in urban parks and for continuous ecological networks; the research about urban green space as a network. Nowadays the landscape design proposed by Olmsted is still the most important theme in dealing with public spaces in the contemporary landscape

In Washington Olmsted experimented the realisation of a portion of a city dispersed into nature; he realised for several university buildings for lectures and exams to be expanded into the park and integrated with nature. He worked with dispersed and low-density urban elements organically integrated into the landscape resulting in them no longer being properly urban. The cities expansion into nature realised by Olmsted represent the roots of the low-density contemporary settlements.

The model of the Garden City

Ebenzer Howard (1850-1928) was on the borderline between the abstract urban theories of the 19th century and the new radical hypothesis of the Modern Movement. The movement of the 'Garden City' (1898-1902)⁶⁰ started at the end of the 19th century, it was deeply influenced by Olmsted's American experiences. In line with the thinking of the Russian geographer Kropotkin, he promoted the decentralisation of the population into satellite cities located in the countryside with the aim of decongesting the high-density big cities. In Howard's Garden City urban and rural spaces were deeply connected to each other; in that city the advantages of living in the city centre were related to the pleasure of living in the open countryside. The aim of his plan was to decongest cities and to save the countryside from abandonment. On a larger scale the objective was to create a network of Garden Cities linked to each other through efficient infrastructures.

With his book *Garden cities of tomorrow* (1898-1902), Howard wrote a manifesto for the Garden City creating a settlement model that was adaptable to different

59 See: Tafuri, M., Dal Co, F. (1976); Pettena, G. (1996), (see pages.15-45); Gregotti, V. (1966), (see pages 74-79).

60 For the Movement of the 'Garden cities' see: Benevolo L., (1960) (The edition I read is the 2007 edition), Tafuri, M., Dal Co, F., (1976), Secchi, B., (2000), Viganò, P., (1999).

territorial conditions through several patterns of settlements. In the Garden Cities there was a harmonious balance between residential, industrial and agricultural areas. They were projected as self-sufficient cities for 32,000 inhabitants; at a territorial scale they were satellite cities in the countryside sufficiently spaced to avoid crowding each other and they surrounded a central city.

Garden cities were like 'utopic villages' and new ordered foundation cities far away from, for example, the urban dissolution of Olmsted's suburbs in the United States.

Radburn, New York

In the United States a 'new town' was experimented with in 1928 taking inspiration from the Anglo-Saxon tradition of the Garden City. This new Garden City was called Radburn; its planning scheme was inspired by the 'cul-de-sac' urban system. It was characterised by an anti-urban logic and by an equilibrated relation between the settlements and the countryside. Nowadays, Radburn is a part of the suburbia of New York and it is hidden in the myriad of individual gardens of the urban sprawl.

Roots of the dispersed city in Broadacre city

Urban dispersion is already clear in the American cities at the beginning of the 20th century in which a complete merging between city and landscape can be found. Wright's project for Broadacre city is one of the first examples of a dispersed city composed of small-scale buildings sprawling into the territory. In this model of the dispersed city he proposed a hybrid landscape where urban and rural elements are merged. Building shape was heterogeneous and represented an impressive anticipation of the diffused contemporary city. The idea was to re-create a life deeply connected with nature reaching good urban quality.

A.2 Urban dispersion, shrinkage and re-cycling processes in Italy

Since the beginning of the 50s, Italian cities began to expand beyond their borders, dissolving into the territory in the form of scattered and fragmented settlements⁶¹. At that time, a territorial revolution started changing the organisation of society and of the economy which lasted until the end of the 80s. At this point, Italy was transformed by a spontaneous process of 'territorial coalescence' (Calafati, 2009).

At the end of this process, Italian municipalities no longer had functional identities: they were political and administrative units but not territorial units with functional autonomy. These historic cities ceased to exist on their own but were dissolved into urban systems.

Considering the compact urban form of the pre-industrial city, the development of industrial cities must necessarily expand beyond their original boundaries relieving density. This is a fundamental process in the history of the city that has taken many different forms. It is very difficult to describe since we lack the categorical systems to sufficiently classify it and help us understand the observed phenomena.

The interpretation of the territory is a complex activity: reading and writing in it (meaning design activity) are overlapping and creating confusion. Nowadays, the fragmentation of the territory can be interpreted as a kaleidoscope view in which the same figure is repeated, always the same.

The territorial economies are characterised by a constant evolution. The dispersed city is an expression of regionalisation of the economic process. This consideration is the first step in recognising the embryo of the new city, created by the processes of coalescence in territorial patterns. The city is a system in motion, constantly moving away from equilibrium, in which the heterogeneity of urban structures can impact on the economic development in the medium and long term. The territory is not a stable datum, on the contrary it is constantly evolving in an unsteady economy.

Cities can be interpreted as a group of people, but it is also constituted of the relationships between individuals and between individuals and organisations. The relational aspect of the dispersed city is very important.

It is essential to examine the diversity of the city keeping in mind the relationship between the individuals who belong in it. In the forefront is the relational nature of the city as it is a mode of communication.

Urbanisation continues to grow in different, minute and fragmented forms not easy to describe using traditional analytical schemes and knowledge of the territorial disciplines.

61 For a longer explanation of this issue see also: Amenta L. (2013), "Strategie per ricostruire i frammenti di un passato industriale", in Leonori M., Testa P. (a cura di), *La città oltre lo sprawl. Rendita, consumo di suolo e politiche urbane ai tempi della crisi*, Edizioni Solaris S.r.l., Roma.

Nowadays, if you look from above, entire portions of Italian territory appear almost completely built upon and indecipherable. They are no longer cities, they have lost their physiognomy. But neither are they urbanised countryside, since the open space, cultivated or bare, is not positioned around the urbanised areas, but rather it is incorporated into it (Boeri, 2011).

After the illusion of growth, it has become increasingly complex as the city and territory follow complicated processes in their modifications. It seems necessary to go beyond an attempt at interpretation and describing the new form of metropolitan dispersion, and instead to consider the problem of interpretation of the relationship between the spread out settlements, between the inhabitants and the places, to move towards a possible redevelopment of the dispersed city in which large amounts of WL can be found.

The concept of dispersion is not only an indication of low density settlement, but takes on a broader meaning tied to the loss of the collective sense of urban places. The open space, is not designed as a public space but is reduced to a functional connective space with the consequent loss of the sense of public space. The common space is becoming evanescent (Bianchetti, 2003) making the contemporaneous situation more complex. Therefore common spaces are losing their characteristics and features, becoming something that is continuously reinvented.

The actual economic crisis can be viewed in a positive light in that it allows us to reflect on the unsustainability of the model of growth that we are used to. The Italian situation is very similar to the paradoxical moment in which other western countries are living in. Even if the population is shrinking, the resource consumption, the production of goods and the erosion of natural environments and landscapes, the urbanisation of the agricultural areas and the soil sealing are still growing. This model of indefinite growth, that for the Italian territories continued until the end of the 70s (private and illegal settlements, public neighbourhoods, etc.), is not compatible with the finite resources of our planet. We still have time to imagine a new kind of economy starting with the re-using and re-cycling of existing structures and going towards an inversion of growth (Latouche 2012), understood as an abandonment of progress and development.

Answering the contemporary demands of public spaces means imagining new uses and meanings for the transformation of the existing city, creating new centralities in the polycentric territory in which it is possible to integrate different and innovative functions, stimulating the social mixture.

Urban dispersion in the South of Italy

Reflections attentive to the specific regional contexts provide an understanding of the social significance of the concepts of dispersion and diffusion of settlements. In the South of Italy the dispersion is a sign of social marginality. By 'periphery' we mean here a concept that is no longer tied to the geometric distance from the centre but is related in specific contexts to low quality housing and without the symbolic references, that we identify with WL.

The heterogeneity of urban systems, while having the ability to make complex spatial reading of the figures that are being consolidated, opens up new possibilities for reinterpretation of the relationship between the settlements spread out between the area and the society, for a redevelopment of the dispersed city.

The project of the dispersed city

Through the project, only tools that allows you to interpret the reality, trying to rebuild relationships between the pieces, reports, balances, utilising the shape of the space. Using what you already have available means to transform the state of things, using them for another purpose or, on occasions. Therefore, this means working towards densification instead of extending into gaps, fragments, in open spaces and undefined, editable, residue, which reassembled into a unitary form can regain a sense of being inside of urban dynamics.

The research about recycling in architecture⁶² as a philosophy and not simply as a building practice as a theme is not new to the culture of contemporary urban design. It is a strategy that can integrate various ways to transform a space, giving multiple answers to the crisis in thinking related to progress.

The quality of architectural projects should not be sought in spectacular form but rather in smart strategies. It seems clear that, before erecting a new building or expanding the margins of the city, built by sacrificing the natural landscape, the question is whether you can get the same result by transforming or recovering areas and existing buildings and WL. It is clear that we can not continue to erode the soil through the expansion of the city, that due to the transformations of the urban fabric, sometimes contains unused areas or inadequately used spaces known as WL. This is particularly evident in some European cities that have recently discovered a new porosity due to processes of disposal of large areas or a multiplicity of small lots within the dense urban fabric.

The observation and description of the porosity which opens at the centre of contemporary cities allowing to consider ways that individuals and institutions can address the problems of abandonment and recovery with specific strategies and techniques of infiltration.

The 'existing city' is well-established in the centre of the debate that we are required to comply more carefully with existing situations and should always seek new opportunities for the reuse of existing urban structures: buildings, roads and services that have become available due to the transition from an industrial society

62 'Reduce/Reuse/Recycle-Architecture as Resource' was the theme of the German Pavilion for the thirteenth International Architecture Exhibition at the Venice Biennale of 2012, directed by David Chipperfield and entitled 'Common Ground'. In it were presented architectural strategies and attitudes that can contribute to the revaluation of the existing architecture as a resource for our future, as do the revaluation of waste such precious materials. The built environment 'common' is presented as an open field to recover and develop the architecture. According to this philosophy take seriously the existing, the poor, the unusual and the usual as architectural resources opens up new possibilities.

to an information society. Fragmentation and WL are intended as opportunities for reinterpretation.

In this context 'different growth' (Russo, 2013) and recycling represent a way to protect and preserve our future.

A.3 Reading and designing of contemporary cities

“Design” vs “Project”: a problem of definition

In the English language there is not a clear distinction between the two expressions ‘project’ and ‘design’. In the essay “The Uneasy Relationship between Design and Design Research” (2007), Gui Bonsiepe stresses the difference between these two words introducing the German word Entwurf (project). His aim was to make a clear distinction between “design” and “project” since the English popular word “design” sometimes creates a misunderstanding. We will use the two terms design and project interchangeably, to mean the particular “way in which the elements of a certain problem are organised and set following an architectural meaning” (Gregotti, 2008: 11 - author’s translation from Italian). According to Gregotti’s opinion, when we approach the project experience we are already reformulating the data of the project problem in a critical way. The new project hypothesis “is not only a logical link between data but it already needs to establish itself as an architectural way to formulate, propose and connect them” (Gregotti, 2008: 23 - author’s translation from Italian). With the word project we mean a process that starts immediately when the designers/researchers walk around the place, read the landscape, collect and select data and information and when they interpret maps. Reading the landscape is already a part of its design because, during the specific urban description, the imagination of the planner is going on to think about new probable scenarios (De Carlo, 1996; Gregotti, 1966, 2008; Secchi, 2000; Quaroni, 1953).

Reading landscape as a part of its design

Reading the context is already a design activity. This concept is expressed, among other authors, by Vittorio Gregotti in his book *Il territorio dell’architettura* the first edition was published in 1966. According to him, the activity of reading landscape is influenced by our personal experience and filtered through our personal story which is related to the society to which we belong. In this understanding, reading is a first project experience. The perception of the world starts from the description, going beyond the simple measurement of elements, involving memory and invention, through analogies and oppositions. Gregotti expressed the notion ‘vision/opinion’ (author’s translation from the Italian definition: ‘visione/giudizio’) (Gregotti, 2008: 106) to explain that in the description process some objects are revealed and others discarded and left in the background since they are not the object of our research. Every object can be alternatively emphasised or moved to the background depending on the focus of our attention to the project (Sartre, 1958). So we can assume that the reading is the beginning of the project process, giving a choice and knowledge of constitutive elements of the landscape.

“Reading, as choice and knowledge of the constitutive signs of the material, in

its stratification process, becomes then the beginning of the design act” (Gregotti, 2008:116 - author’s translation from Italian).

Bernardo Secchi noticed that, even if the description could appear like “a banal activity without theoretical consistency” (Secchi, 2000: 140 - author’s translation from Italian), he explained that it is a design moment in which we are already formulating our research questions. Walking through the city means not only discovering how it is composed but also in which way it is possible to modify it. Observing the territory we can understand the degree of its availability to be modified. Places, urban materials and social activities, their level of adaptability and the possibility for their transformations are deeply investigated during the process of description.

Paola Viganò recognised an “ambiguous distance in between description and project processes” (Viganò, 2010: 165 - author’s translation from Italian), that is to say that the project produces knowledge through the description activity and the description has also an interpretative dimension. The description can be understood as an experience in which places are gradually analysed for the first time through selections, synthesis and interpretations. The project is the moment in which the degree of availability of places to be transformed is defined.

Reading is a patient research of signs and layers in the urban palimpsest and in its stratifications; it concerns also their re-interpretation and re-composition into new systems of meaning. As Giancarlo De Carlo asserted, the reading of the territory is elaborated through a “designing mind” (author’s translation from the Italian definition: “mente progettante”) and proceeded making attempts to understand in which way the existing situation can change and finding new equilibriums (De Carlo, 1996). Following De Carlo’s point of view, reading and design are complementary actions, methods, concepts or theories and they are present at the same time in the project process. Reading is also related to the understanding of social, economical and political dynamics, identifying the structure and the physical form of the city also through the principal elements that generate the urban form (Basso & Roveroni, 2012: 114).

Also Quaroni confirmed the analytical and synthetic capacities of urban designers as interdependent actions; therefore he identified the difficulty of urban design and planners’ work in using their affective, intuitive and scientific abilities simultaneously (Quaroni, 1953: 16).

Project as knowledge

By project and its techniques it is possible to understand the contemporary physical and social structure of places. Project is a descriptive moment useful to comprehend and give an interpretation of territories as a “field of possibilities” (Viganò, 2010: 173), as an interaction between processes with different natures. Through the project, reality and its mutations are known, creating new relations between the characteristic signs of the space. By design we reorganise the structure of urban materials, which we are working with, following different levels of complexity of

their organisation (Gregotti, 2008: 147). The invention, intended as the fundamental part of the design process, is the crucial moment in which there is a transformation of what is perceived and filtered by the memory into something new that doesn't exist yet (Gregotti, 2008: 26).

Design research/design science: scientific nature and rationality of the design process

In the past, design was not considered a part of the scientific debate and it was considered a “non-issue” (Bonsiepe, 2007). Nowadays, the situation is changing and design disciplines are becoming scientific activities moving into academia (Dorst, 2013). Indeed, this method could be comparable to the scientific one because it attempts to answer a main research question, prove or disprove the initial hypothesis and it allows the research to go further than the existing body of knowledge through the production of new additional knowledge about the subject. Even if there are a lot of critics on the subject of design activities that believe it will never be scientific, it can be affirmed that contemporary design and science have something in common: an experimental way to work.

As Gregotti emphasised, the issue of the rationality and scientific nature of the project process is an evolving one, which has been subject to much debate throughout the years between architects. The problem of the understanding of project process as a science, constituted by different phases of collection, selection and choice of data, involves the main issue of the relationship between scientific research and research by design in architecture (Gregotti, 2008: 13). The design technique can be considered as a rational process as much as scientific and logical reasoning even if it is significantly different from them. It is important for us to recognise: “its different rationality” (Gregotti, 2008: 26).

Scientific activity and design activity are usually considered as two different ways to approach reality. On the one hand scientists observe the world from a perspective of cognition; on the other hand designers approach to it from its “design-ability”. Nevertheless, it can be noticed that design activity is carried forward through a cognitive process.

The issue of design research/design science is becoming of great interest in recent years for different reasons (Bonsiepe, 2007). Firstly, very often design problems are so complex as to require previous or concurrent research. Secondly, a specific academic qualification such as a master's degree or a doctorate is needed for design education at universities.

A.4 Definitions

METROPOLISATION

Francesco Indovina (2003) defines the term ‘metropolisation’ as the tendency of the urbanizations of the metropolitan areas to integrate and merge each other; this integration happens thanks to economic activities, social relations and everyday life activities. The whole territory is organized in metropolitan areas, not necessarily connected to a large urban core but structured in variable hierarchies.

PARADIGM

A paradigm implies “the entirety of generally accepted beliefs and scientific methods at a specific juncture, or the theories accepted at that juncture” (Kuhn, 1970, cit. in van Timmeren 2013: 16).

In urbanism and architecture language a new paradigm is a completely new way to operate in urban areas that have a significant affect on the common spaces. In urbanism and landscape architecture a new paradigm is a completely new way to look at the living spaces and at their mutations (Ricci, 2012: 7).

PERI-URBAN AREAS

Peri-urban areas are the most fragile parts of territories because they were predominantly damaged by the recent urban growth processes. In older industrial or post-industrial countries the peri-urban is characterised by social and economic change and spatial reorganisation; it is a zone of chaotic urbanisation and sprawl. The peri-urban spaces, resisting simple definitions, is not only a transition zone from urban to rural but it can also be considered a new type of territory with a variety of functions.

Many common characteristics define these kinds of areas: a low population density, dispersed settlements, a high dependence on transport for commuting, physical and social fragmentation and lack of spatial government. In the global context peri-urban zones are neglected areas from a physical and social point of view and they represent places in which the problems of cities and countryside merge.

PETROLEUMSCAPE

Petroleumscape is “where the physical presence of oil infrastructure – storage tanks, pipelines, shipping facilities – overlaps with the oil-related administrative and cultural functions” (Hein, 2013: 437).

Socio-economic, racial, cultural **SEGREGATION**

“Originally, in the 1920s, segregation was used by Park as a more or less neutral concept to analyze spatial and social differences in American cities (Saunders, 1981:65). In recent years ‘segregation’ has acquired a darker, more negative feel,

being associated, particularly in American literature, with the ghettoisation resulting from the concentration of people that are poor or black” (Stouten, 2010: 23).

SUSTAINABILITY

At this time, for the concept of ‘sustainability’, a shared definition or theory has still not been recognized (Timmeren, 2014). “In 1980, the word ‘sustainability’ is introduced in the book *Building a sustainable society* by Lester Brown. Subsequently, in 1987, the Brundtland Commission, which the United Nations General Assembly charged with formulating an ‘agenda for the future’, introduces the concept of ‘Sustainable Development’ in the report ‘Our common future’ (WCED, 1987, p.42): <<*Sustainable development is a process of change in which the exploitation of resources, the directions of investments, the orientation of technological development and institutional change are all in harmony and enhance both current and future potential to meet human needs and aspirations*>>” (Timmeren, 2013: 5)

TEMPORARY

Temporary is a complicated concept to define. It is something not permanent, lasting or effective only for a certain period of time. “The term denotes a finite period of time with a defined beginning and end” (Bishop & Williams 2012: 5). The problem with temporary activities is that it is only possible to understand them as not permanent only afterwards.

TEMPORARY USES

Temporary uses “are flourishing both in the in-between spaces where there is flexibility in the rigours of the property market, and in the areas where multi-use is feasible. Some uses are planned and formal; some are informal, accidental, spontaneous or even illegal. Some occur when a city is shrinking, some when it is growing. Some uses last for a night or weekend, some are seasonal, while others may last five years or more. Some are acts of political defiance, while some are government interventions. Given this wide range of characteristics, temporary activities need to be defined with care” (Bishop & Williams, 2012:5).

URBAN METABOLISM

“We use the concept of urban metabolism to describe the urban system in organic (not artificial) terms, by drawing a parallel with the human body. Metabolism is therefore a key concept here: the metabolism of the urban landscape. How do the ingenious, interlocking flows and systems in this complex, interactive urban system work, which incessantly works to meet the needs of its residents? [...] We can distinguish two different schools in the scientific field of urban metabolism:” — an environmental school in the tradition of industrial ecology (...) (IABR, 2014:14) — a sociological school [...] the spatial perspective has not yet received the attention it deserves: In what form can we best apply the characteristics and possibilities of substance flows to urban life by means of spatial design? [...] Creating cohesion

between urban flows. Every flow has its own infrastructure” (IABR, 2014:16).

URBAN REGENERATION

Many definitions of urban regeneration exist and they are changing constantly. Urban regeneration is a process and a type of intervention started already with Hausmann’s plan for Paris at the end of the 19th century. As Paul Stouten asserted in his book *Changing context in urban regeneration*, also London was one of the first Western European cities to adopt measures to combat the decay in the inner city areas, to regenerate itself after industrialisation (Stouten, 2010: 26-28).

Urban regeneration is a “comprehensive and integrated vision and action which leads to the resolution of urban problems and which seeks to bring about a lasting improvement in the physical, social and environmental condition of an area that has been subject to change” (Roberts, 2000:17 cit. in Stouten, 2010).

In addition, Stouten asserts that Ravets (2000: 274) considers that the strategy for the urban regeneration deals with physical and social restructuring, diversification of economies, re-engineering and reinvention of the city-region (Stouten, 2010: 28).

URBAN RESILIENCE

Resilience⁶³ “has been used to describe ecological systems, social, social-ecological systems and is an actual field of academic debate. We use the definition of Godschalk (2002): a resilient city is <<a sustainable network of physical systems and communities>>. But [...] it is important to add Hollings’ description (1973) of ecological systems: he puts resilience next to adaptability and transformability. [...] Adaptability, as the capacity of the actors in the system to influence resilience. It is <<characterised by the ability of a system to move thresholds, change the resistance to external inputs, move the current state of the system and to manage the cross-scale interaction>>. Transformability is even of more interest. It is defined as <<the capacity to create a fundamentally new system when ecological, economic, or social (including political) conditions make the existing system untenable>> (Walker et al., 2004). Transformability refers to the relevance of concepts such as ‘city of short distances’ (Ryan, 2009) and the ‘city of small cycles’ (Timmeren, 2006), but within a larger interconnected context” (Timmeren, 2015).

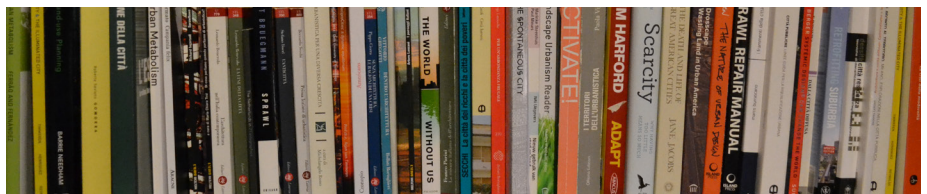
URBAN AREAS

“Cities, like all social reality, are historical products, not only in their physical materiality but in their cultural meaning, in the role they play in the social organisation and in people’s lives... Urban is the social meaning assigned to a particular spatial form by a historically defined society” (Castells, 1983: 302)

63 For further information see: <http://www.bk.tudelft.nl/over-faculteit/afdelingen/urbanism/organisatie/environmental-technology-and-design/onderzoek/glossary/urban-resilience/>, date of access March 2015.

VACANCY

“Vacancy represents both a temporal and spatial vacuum between old and new use, and temporary users tend to select those sites that are of little interest to property investors at a given time” (Bishop & Williams, 2012:25).



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