DESIGNING
THE SKELETON
OF/FOR
ROBUST LANDSCAPES

A thesis submitted
in (partial) fulfilment of the requirements
of the Degree of Doctor of Philosophy

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DECLARATION

I certify that except where due acknowledgement has been made, the work is that of the author alone; the work has not been submitted previously in whole or in part to qualify for any academic award; the content of the thesis is the result of work which has been carried out since the official commencement date of the approved research program; any editorial work, paid or unpaid, carried out by any third party is acknowledged; and ethics procedures and guidelines have been followed.

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The project images are the work of Taktyk unless otherwise stated.
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INTRODUCTION

THE PHD DOCUMENT

FORMAT

This PhD, pertaining to the art of garden design, reflects upon the challenges facing landscape architects in making landscape. The Catalogue is thus organised as a contemporary treatise on the practice of making landscape.

FOUR CHAPTERS

The Research Catalogue presents a review of the trajectory undertaken within the doctorate. The discourse is structured by four conversations, which can be read independently or in a linear sequence. Armature, Ecology, Score and Platform propose different modes of practice. Each chapter is composed of two parts. Firstly, the projects are presented in a synthetic form to capture the nature of the design propositions, and to surface the threads at stake within them. Secondly, a reflective essay contextualises the findings of the works within the community of practice and maps the impact of the research findings onto the practice.

NINE PROJECTS

Out of 100 projects developed by the office, the selection of nine projects ranges from competition entries to commissioned works taking place in four different parts of Europe. Each of these builds upon previous knowledge generated in the design. As such, they have to be read as a progression of rising awareness, but simultaneously as a whole, as a 'geography of knowledge'.

ARCHIVE OF THE BODY OF WORK

The Archive of the Body of Work includes a selection of projects conducted within and beyond the practice in order to contextualise the research within a larger design production.

EXHIBITION LAYOUT

The Exhibition Layout is a draft proposal of the exhibition concept that aims to highlight the different positions examined within the research.
PREFACE

For the past fifteen years, my practice as a landscape architect has taken multiple forms (practice, design studio, consultancy and editing) and has been developed across several European countries. Each of these roles and positions has supported a range of learning environments with different communities of practitioners and academics. Within the context of the development of the landscape architecture discipline in Europe, I needed to find a framework within which to reflect upon the nature of the work I was producing.

The PhD examines the journey of the last seven years of my professional career. My encounter with Sébastien Penfornis (an architect urbanist) on the project Superdune (Chapter One) led to the creation of a duo-office named Taktyk, which operated simultaneously in Paris and Barcelona and later between Paris and Brussels. For five years we elaborated on the foundation of our work by practising as a duo-band – a band searching for its sound, for the ways to act in the contemporary urban field. Through being commissioned to monitor large-scale territorial transformations, our initial duo-act was reformed through an extended team of collaborators with different fields of expertise.

As we are both engaged in a practice-based PhD, my investigation is firstly aimed at developing a conscious awareness of our own respective modes of operation. As such, the scope of the PhD does not engage with the North American concepts of landscape urbanism, even though it acknowledges its main actors. This Research Catalogue intends to outline my contribution to the office – to the ‘tactics of Taktyk’ – and to the discipline of landscape architecture in Europe.

Pakistan Flood, 2010
(source: Russell Watkins, UK Department for International Development)
RESEARCH CONTEXT: ROSE-PRUNING AS A MODEL FOR ACTION

In 2010, a large part of Pakistan was flooded. I am interested in understanding the consequences of a seemingly simple uncontrolled phenomenon: water expanding beyond its limits, redefining the spatial conditions of the site. More specifically, the photography captures simultaneous relationships, in three time frames: the existing trees partly protected the road infrastructure, the armature of the land, from being washed away. They provide a refuge for the spiders whose huge population generates spectacular nests, which I see as a new provisional ecology. I like to think that the nests will actually protect the villagers from the coming mosquito attacks, and hence from malaria.

In the landscape, my initial fascination has been based on observing and understanding the complex phenomena that structure and transform the productive landscape. In the garden, I speculated and experimented with the dynamic processes of living matter. In particular, I learned that the act of planting, as a simple action, required intelligence to articulate the encounter between time, place, condition and maintenance regimes.

Between observation and action, one of the first significant approaches to the design of garden to which I was exposed was the pruning of a rose shrub. Pruning a rose firstly requires a very careful identification of the plant's various conditions before engaging in any action. The action of pruning calls for both precise intervention and anticipation. The act is both giving shape to the plant and also strengthening its vitality, resulting in a more intense flowering.

Using the rose pruning as a model for action, my initial research questions the following: how do I act as a gardener urbanist, from the design of a garden to the design of a city region, in order to create robust landscapes?

RESEARCH PROPOSITION: THE SKELETON AS A RESEARCH TOOL

If the connection between the garden and the city disappears from the debate of academics and practitioners, can the methodology, the processes, the techniques and the attitudes of the gardener in pruning the rose (and, by extension, the attitudes of the landscape architect and of the farmer) be of help in designing the contemporary city? As such, this PhD aims to contribute to the design methods and techniques in use within the expanded field of landscape architecture in Europe.

In order to answer this question, I became increasingly aware over the course of the PhD of my need to develop and communicate this investigation through research models. Pruning the rose became one model for action using cultivation as a 'regime of care'. The rose itself, as a living structure that man can shape, has implied a tacit understanding of the key-term 'skeleton', which I propose to expand upon during the course of the PhD.
The term ‘skeleton’ has been identified within the course of the PhD, through a careful reflection upon past works, as the principle method of inquiry within my practice. Thus, the research proposition investigates the design of ‘skeletons’ that man can shape in order to structure, orchestrate and guide robust landscapes. Two of the projects that are described were conducted within the research framework over the course of three years in order to test the proposition. The Research Catalogue is structured through a representative selection of nine speculative and operative projects that test and frame the proposition.

The aim of my research is to use a shifting understanding of the term ‘skeleton’ as an investigative tool for research in the medium of design. Recalling Ranulph Glanville, who introduced me to the double condition of reflecting models (model of / model for), my investigations question how to design the skeletons of and for landscapes.

DESIGNING ROBUST LANDSCAPES:
FOUR MODES, THREE POSITIONS

The successive definitions of the ‘skeleton’ have been refined throughout the research process in an iterative manner defining four modes of practice: the modes of designing Armature, Ecology, Score and Platform.

The design of Skeleton as Armature is the practice of shaping the ground conditions as the infrastructure of landscapes, primarily foregrounded within the French tradition of landscape architecture.

The design of Skeleton as Ecology advocates for an integrative and holistic approach to landscape, acknowledging the specificity of a spatial intelligence shaped by Indian and Dutch landscapes.

The design of Skeleton as Score marks a shift in the practice during the research towards the approach of landscape as an adaptive framework, acknowledging the work of the pioneer American landscape architect Lawrence Halprin.

The design of Skeleton as Platform opens the approach of robust landscapes through the definition of values systems, of issues to be cared for

The exploration of each mode of practice of designing robust landscapes is the central argument of the research. Addressing this has highlighted three positions that I use simultaneously in my practice: the gardener, the conductor/orchestrator, and the enabler.

Thus, the Research Catalogue elaborates on the proposal’s main argument, using the following findings of the PhD:

As a gardener, I am focused on the creation of robust armature by amplifying the site-topologies, and I am shaping nature and envisioning robust landscapes as multifunctional, performative ecologies;

As a conductor/orchestrator, I am designing processes and implementing control/release mechanisms through the design of scores, and

as an enabler, I am designing a context for design, questioning spatial politics with the ambition of creating critical platforms for the public domain.
INTRODUCTION
This chapter of the Research Catalogue examines the various understandings of the term ‘armature’ as an expression of the skeleton, understood primarily as the creation of legible spatial frameworks that have a certain presence and permanency.

Firstly, looking carefully at three early design proposals of the office, I will surface the different design operations that generated the design of armatures. The first project, Carte Blanche, is the creation of a garden extension in Barcelona. Then the project Superdune is a speculative approach toward the future of the city of Rotterdam, and the project Robust Forest is a competition entry for a post-mining strategy in Galicia. Despite tackling very different contexts and scales, the three projects introduce our approach to site-making, which privileges the importance of ground-conditions and the raw experience of a landscape.

The second part of the chapter will focus on armature as a structuring spatial device. In this section, I examine my specific approach to the design of the armature, foregrounding it in the French tradition of landscape architecture.

Beyond the use of tracé (geometry), an emphasis of the sectional reading of the landscape allows one to recognise topology as the main design approach that I use whilst designing armature.
CONTEXT
The initial research aimed to look at the restructurating of a private garden in Barcelona. Responding to an open brief from the client – a carte blanche – this project allowed me to unveil a series of questions that became threads throughout the research: What are the site’s main qualities? How can we make them visible through design? How can we anticipate their evolution? What can we leave open for adaptation?
FIG. 1 — The site first appears through the canopy of pine trees that recall the foothills of Mount Tibidabo.

FIG. 2 — The most impressive aspect of the garden is the 11-metre height differences within it.
FIG. 3 — The first operation uncovers the ground, a radical act that reveals the topography, opening up a whole new dimension to the garden, including new narratives. Doing so, we discovered a water reservoir previously connected to the adjacent monastery. This finding would become a resource for the garden.

FIG. 4 — Most of the client’s domestic use of the garden is limited to the swimming-pool area, which is situated between the house and the garage, so the site appeared as being constrained.

FIG. 5 — The client’s initial desire was to extend the pool. However, we proposed extending the garden instead.

FIG. 6 — The next operation was the development of a skeleton-path system, allowing one to experience the topography and to negotiate with the slope. The primary intention of this project was to create a renewed experience of the garden by means of a pathway of one continuous material (travertine stone).
Beyond a single design outcome, the garden project demonstrates an approach to site-making. The whole coherence of the garden is addressed by using different levels of intervention. Three main design operations were undertaken during the project, which introduce the content of this research.

**FIG. 7** — Thirdly the garden was to be understood as a series of ecologies to be enhanced. The proposed armature allows access to the parts of the garden that were not used and this challenges the topography. In doing so, the extended garden is read as a series of parts, as connected fragments of experiences.
From the house to the garden living room
From the house to the mid leveled terrace
From the house to the fitness
Across the different parts
Snapshots of a loop-walk in the garden: walking down from the house, the path-ramp crosses a first threshold, and becomes a staircase that unfolds into the lower level of the garden that lies eleven metres below. Looking backwards (from a bench), the pine trees act as a visual connection between the garden and the Collserola Mountains. The hidden stairs, already present, reveal a secret garden that is protected from the heat. Back to the garden’s main terrace, the pool emphasises the topographic difference in the garden’s levels, while the garden’s pattern directs viewers towards the adjacent monastery and the horizon of Barcelona. Walking barefoot to the pool becomes an everyday delight.
PROJECT OUTCOMES

Having defined a series of coherent spatial frameworks within the garden, the path-system of the garden reveals a series of relationships beyond the site through its visual connections with a wider landscape (the mountains, the monastery or the city’s skyline) and through the presence of mature pine trees. Thus a person who is walking in the garden is exposed to a series of scale-collisions and experiences. Being simultaneously within a garden and within a larger context (the foothills of the Collserola Mountains), both the garden and the terrain have been expanded. Doing so, my attempt was to manifest the site’s former condition of being included in the monastery’s precinct.

Beyond the spatial proposition in the garden, my intervention in this project relied on three enquiries: How/where do (should) we act? How much? And with whom?

The Carte Blanche project introduces the different roles that the gardener and, by extension, the landscape architect can play to intervene in the making of landscape. I consider this garden as an introduction to the different positions tackled in this research. As a gardener, I was interested in acknowledging the specific topography of the site, and in defining different resources and climates so as to identify the garden’s planting conditions. I considered Paco, the gardener of the site for the past 14 years, an invaluable ally in the process. As an orchestrator, I was concerned with the establishment of a spatial framework for the garden. To me, the path enhances the existing topography while creating a strong and permanent *armature* of the garden. Outside of this *armature*, which is an infrastructure of access, the different ecologies of the sites could change over time. For example, the bottom of the site was left undefined both by and for the users. By the end of the construction period, one tree had died; transformed into two linear benches, this tree thus became both a trace of the transformation process as well as an activator in this part of the garden. Lastly, my role as an enabler was to guide and share with the client and with Paco the process of transformation beyond the construction period. Thus it was agreed that we would set up six-monthly monitoring meetings to adjust the project to and respond to new demands.
CONTEXT
Superdune is a reflective project considering the interface between a city and its port, which began with our participation in an open ideas competition organised by the Port Authority of Rotterdam. As the Rotterdam Port mutates into a deep-sea port and moves westward towards the sea, the old city-based harbour is a very attractive spot for the city’s expansion, while at the same time being threatened by flood-risks. How does man welcome water? How and where can spaces of encounter between a city and a river be created?
The evolution of the harbour and its city is linked by a strange relationship, which mixes love and fear, closeness and distance, movement and inertia. Since World War II and the destruction of 90% of the city-centre, Rotterdam has suffered from problems of identity, partly due to its lost relationship with the river.

“The dyke has always been an especially important component of the urban structure. This is first because it functions not only as a flood barrier but also as a major traffic artery and, indeed, the city’s main street (…) Second, the dyke divides the city into two different parts: the “polder city”, inside the dykes, protected against floods, and the “water city”, outside the dykes. (…) During the eighteenth and nineteenth centuries the polder city became the town’s neglected backyard (…) In contrast, the water city developed outside the dykes in Rotterdam since the sixteenth century took advantages of its open access to the river, which provided favourable circumstances for shipping-related activities, as well as better conditions for public health.”

Meyer 2002, p. 86
DESIGNING THE ARMATURE: EXPERIENCING GROUND CONDITIONS

In this project, the main design operation concerns the strengthening of an emerging landscape structure using the existing dyke to catalyse further change. In short, can a dyke ‘welcome’ water and, in doing so, become the armature of a new water-city?

This provocative question is developed using the dyke’s ground-condition as the material for the project. In order to deal with overflowing water, it is proposed to use the enormous amount of available sand material to strengthen and widen the existing dyke as protection around the remaining port-basin. The project began with the discovery of a geological map (FIG. 3). This ‘x-ray of time’ allowed us to see what is barely visible anymore: the riverbed superimposed with the harbour’s outline.
The project area is called Heijplaat, which translates as ‘sandy bed’. One of Rotterdam’s unique but hidden beaches exists on the site (which was an area of quarantine). However, what is of interest lies underground. Historic geological maps reveal the pre-condition of the river as a sandy bed more than 30 metres deep. This hidden condition increased further through the modernisation of the new Europoort. Aboveground, the industrial landscape of the harbour dominates. Today, the port’s ‘exodus’, along with all of its related polluting and logistic activity, is an opportunity to reverse the situation and to give primacy to the river.

This project marks the birth of the office in Rotterdam. Sébastien Penfornis and I met and shared a fascination with the harbourscape, which fostered a free use of its terrain, as brilliantly exposed in the photography works of Bas Princen and in the early manifesto of Adriaan Geuze:

“[The new city is an airy metropolis with villages, urban centers, suburbs, industrial parks, harbors, airports, woods, lakes, beaches, nature reserves, and the monocultures of high-tech agriculture (…)] What is more, the city dweller enjoys the new wonders of artificial nature and technology (…) The sand used to create the new harbour district was extracted from the neighboring Oost Voornse lake, the former mouth of the river Maas (…) The sandy plain looks like a practice area for sledge dogs or autocrossing, the dredging depot like a hang glider slope, the block dam like a fossil hunter’s cliff face, the saltwater quarry like a deep-sea diving site.”

Geuze 2000, p. 255

In particular, I have been interested in the potential for creating a landscape that expresses one strong materiality. In contrast to the existing flat urban ground, the project proposes an exaggerated hilly, sandy landscape, not merely a surface but a thickness (FIG. 6): a giant river dune, able to support a multiplicity of activity
and to create diverse urban situations. In this scenario, the movements of ground replace the movements of boats. This process marks the rebirth of a delta landscape related to a new ecology made of substrates and movements. The sand replaces shipping containers as the raw material of a new landscape (FIG. 6).

In this sense, the project’s objective is not concerned with the elaboration of a fixed design but the initiation of a series of transitions, hoping to generate outcomes combining mechanical, human and natural processes. What matters here is an attention to the materiality of a landscape, to the tactile experience of it. Sand and water define simultaneous situations of stability and instability, through different mechanisms of transformation. The dune, by definition, is a body in movement that will react to natural streams and human activities. Differentiating between the water conditions of a location will determine its natural functions and uses (FIG. 10).

The overall project calls for a strong identity that can succeed the port landscape, and establish a new urban territory. The ‘dune and water city’ is proposed as a new inhabited park for Rotterdam South, the equivalent of Kralingen Park (FIG. 12) in terms of being a large open space with a major body of water. The envisioned city reflects upon possible new living conditions where leisure could prevail. The transformation of the port area into a place for recreation marks a shift from the original maritime activities, while at the same time not denying the presence of shipping and the transportation of goods on the river. It proposes a new idea of a ‘public realm’ in the form of a contrasting landscape, in which nature, city and industry co-exist. The goal is to increase the city’s potential, by using the different bodies of water to develop a wide range of habitat types and housing options organised in various densities on its fringes.
FIG. 7—The birth of the office, modeling the Superdune
FIG. 8 — Superdune park (bottom image), New water city (above)
FIG. 9 — Dunepark

FIG. 10 — Differentiation of water conditions and urban forms
FIG. 11 — Timeline of the Superdune

FIG. 12 — A new park for Rotterdam south, the equivalent of Kralingen park
PROJECT OUTCOMES

The Superdune project has emphasised armature as an infrastructure that responds to climate change, which is of particular concern to a delta-city. In this project the armature between city and port takes the form of a third landscape, an ‘in-between’ territory, considered as a real, built and evolutionary artifice relying upon water management processes and techniques (for example, dredging). Nature and management together create the first dimension of the territory, the substrata for future social and economic forces. As a cultural product, the landscape is a reflection of the machine, as well as a machine in itself - constantly in transformation. More specifically, Superdune is an attempt to develop an armature that is a performative landscape.

Being trained to understand landscape through an evaluation of its resources, my approach is to observe and to recognise unstable conditions and forces that can change a landscape. For example, a ‘weakness’, a risk, can be recognised as a vector of transformations, and thus as a design enquiry. This search for the ‘minimal action device’ that can support extensive growth was made broadly legible with the second International Architecture Biennale of Rotterdam (IABR), which was curated by Adriaan Geuze. I have been exposed to the Dutch landscape as a scholar, via site visits, within an academic context and through professional collaboration. Above all, I have been fascinated by the ability of the Dutch to literally create ground beaneath sea-level. This situation requires the landscape to behave not only as a productive surface but also as an engineering system.

The ground strategy for the armature in Superdune shares the approaches of previous seminal projects for the Dutch coast, such as Adriaan Geuze’s proposal for Duindoorstad (1995) and the previous Dutch Prix de Rome awards, John Lonsdale’s project (2001) and Ronald Rietveld’s Generating Dunescapes project (2006) for the city of Ijmond, which was awarded shortly after our submission to this competition.
Following the Superdune project, another responsive approach to climate change was tackled. Two projects that have been developed with seven years between them are used to discuss the notion of robust landscape. The project anticipates the planned closure of a mine as an opportunity to develop a scenario for transforming the region. This competition was developed while half of Portugal’s northern forests and part of the Galician woods were experiencing severe forest-fires. How does an acceptance of fire as an overall forestry strategy allow the exploration of the subject of recovery as a ‘pioneer’ act for a larger integrated proposal?
FIG. 1 — Forest Fire, Spain. (source: image from author's collection, date unknown)

FIG. 2 — Study Model (matches, haches and earth compressed)
The project proposes the manifestation of a cultural figure of the site into a spatial design. In the competition for Galicia’s City of Culture complex, One Architecture and OMA identified the *castro* as a possible icon for the architectural project (FIG. 3). The City of Culture became a ring partly embedded in the rock and partly overhanging the hilly site (FIG. 4). Part of the competition brief was to propose a design to convey an interpretation of the Galician forest. The forest was then conceived by the architects as being more like a garden, protected by the ring building.

My role as a landscape consultant for the team was mainly to reverse the proposal. Thus my proposal recognised the specificity of this bare hilly landscape on which the existing forest would burn every five years. The forest project strengthened its robustness against fire through the selection of specific plants. The scraping away of the hilltop to reveal the stone beneath the earth allowed for the drawing of the City of Culture’s circulation system. Ultimately the rooftop became a 360-degree panorama machine.

**FIG. 3 — Castro figures**
In my eyes, the *castro* is a powerful expression of relation to topography, as a landform and as an example of utilization of local resources.

**FIG. 4 — The scraping of the hilltop allowed the drawing of the City of Culture’s circulation system.**

**FIG. 5 — The *castro* as a system of loops and access roads**

**DESIGNING THE ARMATURE: ERECTING A CULTURAL MARKER**

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THE FOREST AS ARMATURE

This second competition in Galicia anticipated the planned closure of Meirama, a 1000-hectare mine. All over Europe, the metropolitan development of cities has to question the potential role of large remaining areas of agriculture and of open territory, namely the ‘hinterland’. This project introduces a first perspective on reinventing post-mining landscapes using ‘agri’+‘culture’ as the main physical and conceptual framework.

In this second proposition, I am interested in a deeper exploration of armature as a cultural marker. As the castro is firstly a defence shelter against the wild forces of nature, I asked: what if the castro-figure became a protective void (the road system) against fires within the forest? (FIG. 7). In this approach, therefore, variations of urbanities and densities are defined by the forest habitat’s location and typology (FIGS 9 & 10). The spatial strategy manifests time (FIG. 11).

Accepting fire as an overall forestry strategy explores the subject of recovery as a ‘pioneer’ act for a larger integrated proposal. Catalysing three mechanisms, the project draws on the presence of water, agriculture and the mining machines. The design’s intention is to create a robust forest armature upon which industry, agriculture, leisure and living could be developed.

The strategies differ between the hills on the northern side (escombrera interior), where ground movement has ceased, and the plateau on the south side (escombrera exterior), where such movement is still occurring. Most of the ground has been affected by coal extraction, which leaves very poor soil in its wake. The overall scheme proposes turning the mine into a vast recycling machine in which ground regeneration, water catchment, and manure fertilisation interplay.

In order to change the monoculture of the eucalyptus on site, an alternative scenario was proposed. Careful studies of the existing local productive forests led to a regeneration scheme based on a diversity of habitats, which are able to react to various ground/slope conditions and time-frames.
FIG. 7 — Current reforestation approach

FIG. 8 — Differentiation of planting strategies and urban densities

FIG. 9 — Phasing

2010

2030

2050
FIG. 10 — Study models
For the north side (escombrera interior), a series of hilly woodland ecosystems is proposed. Different tree species articulate different forest typologies: forest rim, living forest, leisure forest, production forest, natural reserve forest, cluster forest, necklace forest and terraced forest (Fig. 9). In this approach, therefore, variations of urbanities and densities are defined by the forest habitat’s location and its typology. For example, the oak forest as a precious and slow-growing model is synchronised with the last urbanisation phase and a low-density compact pattern. Meanwhile, the escombrera exterior is a plateau structured around existing ‘canyons’, which organise thematic fields such as industry, horticulture, topsoil production and water treatment.

PROJECT OUTCOMES

On the site, sufficient existing accessibility provides an opportunity to turn the isolated mine into a landscape to be inhabited and thus experienced. The project defines a process of site-transformation over a period of 30 years, witnessed by the return of water, which fills the mindshafts, and of forest. Over time, requalification of the ground would be visible via the following conditions: the differentiation of levels of fertility in the soil and of topography; and routes of access acting as fire protection and as new lines of distribution of adapted forest typologies and programs.

The Meirama mine marks the beginning of the closure of other mining sites across Galicia. The recovery of these mines may result in a chain of future inland park-systems for the region, with a view eventually towards carbon forestry. From carbon to forest, the reinvented castro forest armature becomes a productive place that embodies industry, agriculture, forestation, leisure and living. An overall strategy is developed, which explores the subject of recovery as a ‘pioneer’ act for a larger proposal. The attempt is to go beyond simple land recovery by replacing the territory meaningfully in the larger metropolitan context of La Corona. The mining area is understood as a strategic development area for large logistic platforms that are reusing the existing railway line for the extension of the La Corona harbour station, while the station is converted into a new mobility-hub for future urban inhabitants. This would improve to an even greater extent the image and myth of the ‘green and lush’ Galicia that could lead to the establishment of carbon forestry. If ‘robustness’ is thus used initially to describe a planting system, it actually covers a multi-functional approach to a landscape operating at various scales.
The armatures are generally drawn with an understanding of tracé. In French, tracé is a word used to define a circulation system as the ordering principle of a garden or a park. In the projects being considered, the armatures take the form of structuring lines, being a path-system for a garden (Carte Blanche), a forest (Robust Forest) or a dyke (Superdune). The structuring lines have three roles: they define spatial structures; perform as infrastructure for the inhabitation of a place, and develop mobility as a qualitative experience across various landforms.

For instance, in the Barcelona garden the path-system allows a continuous movement across separate and disused open areas, expanding the domestic domain of the site. The armature of the garden is developed as a superimposed geometry, following and revealing the existing landform and engaging spatial relationships beyond the site. As a tracé, the path in the garden is superimposed onto the existing terrain as a trace. When it encounters different spaces, the path disappears yet still suggests a direction. As such, Carte Blanche is demonstrating an approach to site-making that emphasises the geometry of the terrain as opposed to the geometry of the existing house. It recalls the identification of ‘site as armature’, as stated by Elizabeth Meyer (2005), which underlines four design strategies that read and alter a site: site as armature; site as geomorphological figure; site as ecosystem or geological fragment, and site as temporal phenomenon. Looking at two garden projects in particular, I am specifically interested in the differentiation the author draws between Calvert Vaux and Frederick Law Olmsted Sr, who designed parks “based on the overlay of idealized landscape types transposed onto a particular landform armature” and Horace William Shaler Cleveland’s approach to a park plan that embodies a similar approach to the one I developed for the Barcelona garden. Meyer argues that Cleveland’s approach “counts the usual description of the plan as a transition from architecture to nature, from order to the wild. Rather there are two systems of order, two frameworks or armatures: one the geometry of the house and the other, the geography of the site.”

Meyer 2005, pp. 103-106
Defining site structures as the *armature* of designed landscapes corresponds to the search for ‘identity bearers’ that has become a tradition within the European approach. This first chapter introduces how my own approach is firstly rooted in the heritage of my professional education in France and the influence of certain projects and practices. 

The French culture of landscape architecture is linked to the history of the School of Versailles whose approach was initially rooted in horticulture and landscaping. Between 1971 and 1974, Michel Corajoud as a pedagogue introduced an experimental pedagogy that privileged design investigations questioning the rapid transformations of the French cities. This period marked the end of the horticulture school (ENSH) and the start of the first landscape school in France (ENSP).

Being trained in the School of Versailles in the late 90s, I’ve been introduced to the French approach to landscape by three of its main protagonists. In the design studio, Alexandre Chemetoff stressed the necessity of the reading of a site, in order to develop a strategic approach and expand the given brief, questioning the ability and the role of the landscape architect to act within the complexity of contemporary landscape. The dimension of strategic thinking has been instrumental in forming my approach to landscape.

Within the pedagogy of the school I recall Corajoud’s careful reading of the *tracés* of Le Notre’s gardens (Corajoud, 1993). Beyond the garden, I was fascinated by the landscape structures of the park, pieces of controlled natures, expression of power, spaces shaped through geometry and forestry for a duration of 400 years, which influence the way I design armature. Corajoud’s research aimed at making the underlying logic of the park legible. In his final outcome the lines of the park composed a spatial framework, a relational figure between the city, the gardens, the park and the territory, that I saw as a model for practicing across scales.

Lastly, Girot’s emphasis on the importance of intuition, iterative trial and error, attempting to reveal the character and capacity of a site beyond the visible, enlarged my approach of the reading of landscape to the cultural, the sensitive and experiential, the visible and invisible, giving a specific attention to the design of surfaces and the nature of ground conditions.

“By its very nature, the relational thinking that is inherent to landscape architecture takes a dim view of the subdivision of land and the dispersal of authority and responsibilities, as these are the primary agents that have caused the disintegration of the landscape as coherent fabric. This situation has led some landscape architects to reconsider their role, prompting them to provide responses to client requests that consider aspects not usually considered germane and to call attention to issues far beyond their commission-in general, to transcend the limits usually assigned to such consultation in a effort to bring attention to broader objectives (...) This strategic and synthetic approach is what enables contemporary landscape architects to assume leadership roles in the design and coordination of large-scale projects.”

Marot 1999, pp. 52-53

*Analytical Model of Farrand’s Dunbarton Oaks by Elizabeth Meyer and Katie Towson (source: Burns & Kahn 2005, Site matters: design concepts, histories, and strategies, Routledge, New York)*

“*The word paysage means landscape (as in land and countryside) and much more, conveying qualities that are both visible and invisible. It refers not only to issues of environment and ecology but also to the mood of an entire nation, to its changing sense of identity and cultural belonging. There is thus a deep sense of temporal continuity (both historical and inventive) that pervades the idea of landscape in France. (...) I am interested in how one recog-
nizes sites through design (…) French landscape design theory is unfortunately not at the level of the questions that are asked of practitioners today. It is precisely this void, this absence of a clear and demonstrable theory of landscape architecture, that explains why most French practitioners have chosen a rather intuitive and experiential approach to design.”


Following the example of Versailles, I attempted to design legible spatial frameworks that extend beyond the site’s boundaries. I am interested in the way that the landscape can become the framework for urbanisation processes. This discussion has been debated extensively since the 1990s, with the rise of the landscape urbanism agenda. One of the main criticisms of this approach, which I share with Grahame Shane, is the real difficulty of operating at a large scale and engaging with urbanisation processes:

“The recent discourse surrounding landscape urbanism does not yet begin to address the issues of urban morphologies or the emergence of settlement patterns over time. It concentrates on their disappearance and erasure. The problem of this approach is its amnesia of and blindness to pre-existing structures, urban ecologies and morphological patterns.”

Shane 2006, p. 63

In the cases of the Carte Blanche, Superdune, and Robust Forest projects, designing landscape armature is primarily a quest for spatial legibility, being the manifestation of, respectively, the topography and wall-structure of the garden, the sand of the riverbed, and the Galician forest. Each of these elements shares a long-term lasting condition. Responding to my desire to find figures on the map within a random distribution of surfaces, my approach to making landscape is firstly the ‘overexposure’ of certain site characteristics. Among these, the ground condition is an identity-bearer – in a sense, the ‘DNA’ of the site. The projects propose powerful landscape structures as figures of resistance to act as both containers and infrastructure for the dispersed urban territory. In the case of Superdune and Robust Forest, the armatures are designed to negotiate the uncertainty and the cohabitation...
of functions that are usually in conflict. As such, they share partly the definition of the ‘Casco’ approach proposed by Marcel Smets:

“The Casco reflects the constitutive form of the landscape and is based on local geological and hydrological conditions. (...) The power of its distinctive pattern allows it to be filled in various ways without losing its fundamental character or identity.”
Smets 2002, pp. 132-33

If the armature is an embodiment of the topographical condition of the site, the approaches of Superdune and Robust Forest operate at quite a different scale. Superdune is composed of a territorial figure that manifests itself not as a line in a landscape, but as a fragment of a larger geomorphological system. In Robust Forest, the design considers the forest as a fragment that represents the whole. The castro figure is inverted, distorted and adapted into the topography of the terrain in order to create a geometry of flow and exchange instead of inclusion. In the end, the Casco is no longer recognisable, but the initial figure allowed the development of an inventive new tracé to be inhabited.

ARMATURE AS TOPOGRAPHY

The previous projects emphasise the importance of the circulation system in constructing the site as a qualitative experience. This approach was first explored in a previous project on the scale of a park, developed for the landscape architects Karres en Brands. In the competition entry for the headquarters of Cartier in Switzerland, a single path-system was developed across the topography of the site and the terrace of the headquarters building. Sketching the project, I was then impressed by the ability to capture the proposal in one single paper model. The model made visible a clear open-space structure and was able to communicate the sectional quality of the movement between the building and the landscape. As such, the proposal could not really be understood and elaborated by means of a plan.

The Carte Blanche project’s unique feature was our regular encounter with the site during the construction phase. The path-project was developed with a single drawing that aimed to embody a choreography of movement through engaging physically with the slope of the garden. By visiting the garden every day, the location of the circulation was tailored to the site conditions, literally sketching the behaviour of the path onto the site. Defining a series of coherent spatial frameworks, the garden’s skeleton revealed a series of relationships beyond the site. The experience of a person walking in the garden would therefore be exposed to a series of scale collisions. The armature of a landscape in this sense connects separate parts that had previously been less visible. The parts may be physically hidden or scattered across scales. In Rotterdam, drawing the city’s section revealed the hidden riverbed. In Meirama, the sectional approach through models and diagrams became the procedure for understanding through scale the cultivation of the forest across time.

The PhD commenced by considering projects that were designed through focusing on a concern for topographic conditions as identity-bearers of the sites, an enhancing of ground dynamics. Looking at landscape is related primarily to searching for the condition of its appearance. The primary act of observation allows the identification of supportive physical conditions, which exposes invisible resources that are either below or beyond the surface of the site area. The site is redefined when the project is developed ‘in between scales’. In the Superdune project, the collective cultural dimension of the delta has been emphasised by recognising the scale of the quay, the harbour, the river, and the delta. In the Carte Blanche project in Barcelona, the existing walls of the garden have opened up a relationship to the monastery. The Superdune exposes the specific geology of the place to support a multifunctional space coping with water-level changes and new urban programs. The ‘dyke as superdune’ is a manifestation of this intention. It is both an imposing tracé design at the scale of the river estuary (35km long) and an expression of the river.
In his conversation with Hans-Ulrich Obrist, Eliasson addressed more specifically his interest in the ways that humans understand space using their senses (Obrist 2010). Designing landscape should rely on this attention to qualities of the sensory.

In this regard, searching for a term that could describe the art of making landscape – an expression equivalent to the term ‘tectonic’ in architecture – Christophe Girot (2013) advocates the notion of ‘topology’:

“There exists a schism between the way landscape is understood scientifically, either as a functional normative network or an ecological system, and the way the same place exists cognitively, poetically and emotionally for people. (...) Topology in this sense is not just about descriptive geometry and does not only deal with technical questions about continuous surfaces in mathematics, it also pays a greater attention to the deeper poetic and philosophical meaning of a landscape, and helps us to grasp as much about its making as about the perception of its intrinsic beauty. (...) Topologies create a particular intelligence of terrain. (...) Topology is about the interrelated cohesiveness of things and people; it is about how a tree meets the ground and how water sounds as it runs over a stone. We believe in crafting comfort and beauty out of landscape in the many ways we entrust our world with deeper meaning.”

Girot 2013, p. 7

I understand the use of the term ‘topology’ as the direct continuation of our first investigations, which were called ‘topotypes’ as a con-
traction of the terms ‘topos’ and ‘prototypes’. They focused on large-scale landscape strategies for the transforming city through the manipulation of its earth and the use of its resources. By extension, the design strategies engaged with what might be invisible to the untrained eye. Conceptually, the practice of ‘opening’ the ground exposes it to diverse and dynamic forces of transformation. The landscape project is the spatial creation of localised ‘distribution’, the creation of habitats in which the sky and the underground are considered in a set of relationships. ‘Thickness’ is a condition throughout the ground that defines the possibility of space for lifeforms. In this form of negotiation between culture and nature, the ground is the mediator of existing and projected forces.

In the particular example of the Superdune project, the existing infrastructure — the (out) line — turns into a field, a territory in transformation. The dyke as an autonomous infrastructural device becomes relational rather than oppositional. In doing so, it dissolves the figure of background and foreground. From the fortress border to the transition border, new territories can appear. Invisible landscapes will suddenly emerge along with the water’s resurgence – between land and water, river and city, past and future. The projected future landscape manifests the riverbed and the delta. The presence of sand in its expression becomes part of a new poetry and of the uncertainty of the place.

Among the French generation of landscape architects, Michel Desvigne and Catherine Mosbach are two representatives who influence my practice. In designing the Superdune and the Robust Forest projects, I considered that my background reference could be summarised in the ‘elementary gardens’ of Desvigne. During his research residency in the Villa Medici in Rome, Desvigne designed speculative landscapes using erosion as a transforming agent. The design proposed multiple prototypes of earthworks that would stage different site conditions. Any ground manipulation, such as digging, moving and mixing earth, creates a localised ‘land distribution’. In doing so, he gave the ground the leading role on the landscape set. The freedom of his speculative activity and large-scale landscape strategies inspired me to become a designer. The modelling techniques of the elementary gardens, for example, inspired the prototyping of the mine projects. His research exhibited an aesthetic of the raw and unstable landscape. Lastly, his local and international recognition allowed my generation to claim access to strategic projects.

More recently, becoming a landscape adviser to the Louvre Lens development gave me the opportunity to interview Mosbach about her project for the museum’s park. She summed up her approach as being an ‘etching’ into the thickness of the landscape. Aiming to map the design
operations that she undertook in her projects, I was able to trace the transversal and specific logics within her design process using three approaches with which I feel familiar: substitution, transcription and exposure. In her project, she identifies the rails as a primary armature of the park. In doing so, her design gives these lines a new role by substituting the tracks and traces left by mining activity with the movement of visitors – thus, past patterns of flow are replaced by future ones. Following her project for the botanical gardens of Bordeaux, Mosbach works from the starting point of transcribing the pattern of some moss that she grows like a miniature garden in her workshop. The initial moss sketches as a model of nature become a model for the park’s topologies. The design work is seen simultaneously as an art of agency, formation and fixation, recalling the earlier dust-breeding works of Marcel Duchamp and Man Ray.

The ground is designed as a sensitive surface. The intention is to expose this surface to variations in time, playing with relationships between material, contagion, superimposition, and coverings. The quality of her work lies in the combination of raw landscapes with sophisticated surfaces. By including natural dynamics, her projects explicitly carry a dimension that is different from the investigations (literally, the ‘groundwork’) undertaken by Desvigne. Thus, Mosbach acknowledges a deep understanding of natural sciences from her past education, and so claims a very specific approach to ecology.

Considering Carte Blanche, my first action as a gardener was to expose the topography and the horizon by literally cutting all the shrubs on site. This motivation was not only motivated by spatial concerns but by the tacit knowledge that natural light had to touch the ground of the garden. In Superdune and Robust Forest, the exposing of the substrata and the earth-modelling manifested a large-scale amplification of the gardener’s simple gesture of digging and moving the ground to stimulate ecological interactions. In Robust Forest, the transcription of a cultural figure (the castro forest) had originally been a conceptual operation that led ultimately to a more operative dimension, scaling and implementing the width of the fire-roads that are cut onto the existing topography. In relation to Desvigne and Mosbach’s approaches, Robust Forest manifested better than Carte Blanche and Superdune a special emphasis on the exposure of the ground’s materiality and the value of substrata in supporting ecology.
CONCLUSION: FROM THE SECTIONAL TO THE TOPOLOGICAL

In these three projects, the term armature provides an essential means to grasp the notion of a landscape skeleton. It defines a landscape structure that supports urban growth. The designs address the shaping of robust landscapes, in which nature and the inhabitation of space – from the domestic to the territorial scale – develop along topological lines.

The design of the armature reconfigures the ground condition from sterility to fertility, treating the ground as an object of design and of investigation along the following lines. The projects have an infrastructural bias, being developed through sectional dimensions exploring topology as a perceptive dimension. ‘Skeleton’ can thus be defined through its infrastructural and topological bias, stressing the importance of geological resources: it reflects the condition and nature of the ‘endo-skeleton’.

Regarding the analogy of the rose-pruning as a model for action, the design of armature represents the moment when, as a gardener, I engage in the preparation phase of the work, by looking beyond the visible and reading the existing conditions of the ground – conditions which I will eventually alter and expose in order to stimulate and support life.

If the first three projects exemplify the use of armature – being topographical or geomorphological – in designing robust landscapes, the projects of the next chapter address growth and decay, introducing a deeper reflection about the use of ecology in the creation of robust landscapes.

The term ‘ecology’ acknowledges a multifunctional, performative and process-based approach to design. It recalls the notion of the ‘Landscape Machine’ that was explored by Paul Roncken (2010), who aimed to develop an understanding of a new landscape typology using Holland as a laboratory of experiments with groundscapes. He advocates for a new approach of the landscape projects:

“Landscape Machines differ from other landscape projects by two main aspects. Firstly, the metaphor of the machine should be taken quite literally. These are machines that have a certain material input and output and need to be fuelled by some kind of energy (…) Secondly, the natural processes within the Landscape Machines are continuously interfering with each other and therefore affecting the type, form, size and position of the machine itself. The mechanical components of the machine are landscape structures and the fuelling forces are various landscape processes that may change by new conditions as the process evolves. This second aspect opens up interesting and essential comparisons between “hard cast machines” as we know them since the industrial age and “living machines” that are being developed through for instance nano-technology.”

Roncken et al. 2010, p. 1
Bibliography


The first part of this chapter introduces the design of nature from the perspective of multifunctional performative landscape, engaging with the transformation of cultural landscapes at a regional scale. Two projects were commissioned to study the regional development of coastal territories in Morocco and France. They responded to conflicting phenomena operating at a large scale, including tourism forces, metropolitan dwellers’ attraction to the coast, and the decay of the agricultural economy. If ‘ecology’ denotes the study of organisms’ relationships to their environment and to all other organisms, then the ‘skeleton as ecology’ is here understood as the agency of these multiple and sometimes conflicting forces.

Secondly, the nature of these decentralised phenomena questions the conceptual shift in envisioning the city, from being one that is centrally controlled to one that is differentiated and territorial. This calls for new conceptual and operative figures. The implications of this modality are foremost the understanding of the role of humans as the main shaper of the landscape, and the overcoming of conceptual borders between ‘nature’ and ‘culture’.

In this chapter, the design of the landscape’s skeleton as ecology encompasses the shaping of nature, in order to engage with the design of more complex territorial transformation processes. This recognition marks a first shifting of the course of the research.
CONTEXT
The project for the future of the Oriental region of Morocco is a journey across a vast and as yet undiscovered landscape. The region, lying along the closed border of Algeria, represents 80,000km², a territory approximately the size of Scotland. The project challenged the nature of the region's tourism development Algeria – development which included the opening of an international airport, as part of a national plan to increase tourism in Morocco from five to ten million visitors per year. The specific nature of this commission questioned how to envisage tourism as a transformative force for a region, and possibly how to anticipate the future of the Mediterranean Basin. The main issue was to examine the potential for and the impact of opening an international airport in the region. In a place under such pressure from tourism, it is vital to determine both the site’s capacity and its limits for accommodating change. What level of change can a site cope with before becoming a new landscape? What is the impact of our actions? Beyond a speculative project, this commission was an opportunity to deal with the real forces that shape developing nations, such as Morocco.
FIG. 1 — Intercontinental incoming tourist flow, and immigration routes

FIG. 2 — Urbanisation pattern along the Mediterranean coast
THE SEARCH FOR ALTERNATIVE MODELS: DEFINING THREE ECOLOGIES

Since the 1950s, tourism has generated an increasing flow of population across the planet, reaching in 2012 a peak of one billion tourists per year, according to the United Nations World Tourism Organisation. Can tourism be a sustainable driving force in territorial development? Our strategy seeks an alternative to the so-called ‘Attila tourism’ model that has been developed mainly within the Mediterranean context — for example on the Spanish Mediterranean coastline, the Costa Brava. Tourism is seen as a product of extensive impact in this model, and is consequently a global threat. Within the Mediterranean context, climate and landscape are the primary ingredients of tourism. In particular, landscape heritage sites are the first places to be directly targeted and impacted (and destroyed) by mass tourism. ‘Attila tourism’ can be defined as the process of rapid territorial consumption without regeneration — a process that destroys local economies on a long-term basis.

Despite having one of the fastest urbanisation rates in the Mediterranean region, more than half of the Moroccan population under the age of twenty has no access to primary education, and therefore to later employment. Somehow this urbanisation does not support the development of social infrastructure at the required scale. Most of this young generation thus wants to leave Morocco and seek jobs in Europe (particularly France). Under dynamic change, the region suffers from an unequal distribution of wealth and general social inequity. Adjacent to Algeria, the closed border gives rise to a black market economy with illegal sales of Algerian petrol. The southern region is a gateway to the Sahara and the north-south immigration routes.

Within this complex condition, an attempt is made to develop a spatial framework that recognises multiple scales and agencies, along the lines of two relatively simple arguments based upon the infrastructure and the geography of...
FIG. 4 — A journey from Oujda to Figuig
the region in question. I will expand upon how these two notions have been developed.

Sébastien Penfornis and I understood this region as being characterised by both the presence and the absence of flows, or movements. Usually, the distribution of urbanisation patterns along lines of movement creates value. The difference in the case of new tourism typologies is that *immediacy* is no longer the most important criterion, but rather *travel as experience*.

We came to conclude that, in a competition entry on the Mediterranean scale, this part of Morocco should not compete with the more dominant resort industry of Tunisia. What was to be tackled was the rise of different tourism niches that would seek a ‘one-to-one’ experience, an encounter with a ‘real’ place. We used this argument to promote and to defend (both to the client and within the team) the definition of a landscape framework, recognising potentials for tourist development as well as the pressure zones at risk. At the time of the study, the destination was not yet commercialised on the European tourist route. The only existing development in a natural lagoon area was simply recreating the Spanish problem of land consumption. Oddly, across the entire developed area not one single commercial commodity was to be found.

This project investigated the possibility of mapping the existing resources of a large territory undergoing rapid change. A holistic approach was therefore required, addressing the region's infrastructural, educational, social, employment and regulation policies. This involved identifying the resources at hand by travelling throughout the region (FIG. 4) from north to south and back, examining its various ecologies. Water and sun were considered as primary resources as well as education levels, access to infrastructure, the organisation of work sectors, and distribution networks. In particular, the operative condition to which we had to react here was the distribution of an opposite movement of flows. On one side, there was the tourist seeking an experience; on the other, an exploding young population in an economic crisis. Our proposal aimed to respond to the challenge of supporting local economic development by using tourism as a force. As a consequence, we had to consider two patterns of resources: one stimulated by urban growth and the other by new tourism typologies. Thus the mapping of the region was constructed on two layers. First, we differentiated the lines of infrastructure and the patterns of distribution (for which we used dot-markers), making visible the accessibility of the region and its projected development towards the western part of the country: where the dots were closer to the line, urban developments were occurring (FIG. 5). On the other layer, we represented the region's different landscape and geographical conditions (FIG. 6) where the experience of *travel* would be stimulated. In the intersection of the two maps would be located the main strategic infrastructure of the tourism economy and within the different cities (for example, the central market, information centre, educational resources, craft centre, thermal springs...)

This was the first time the office had the opportunity to engage in such an extended exploration of site conditions. For us, the region represented a concentrated version of Morocco. Sixty-five speculative sites were identified and examined for tourism development. Our response created a simple spatial framework that recognised three economic pressure zones: the coastal area and its hinterland, the mid-range mountains framing the provincial city of Oujda, and the desert with its archipelago of oases. Each of these has specific characteristics and development capacities.
FIG. 5 — Lines of flows and distributions across the region
FIG. 6 — Identification of resources (agro-valley, mountain range, oases)
ECOLOGY OF AN INTERTIDAL AGRO-VALLEY

Like most developed coastlines in the Western world, the human occupation here is concentrated on a very thin section of land, contrasting the presence of a fragile landscape with the conflicting cohabitation of the land. Since the middle of the twentieth century, the countries of the Mediterranean coast have followed a strong growth pattern. In this area of the globe, the population living along the coast is predicted to double in size, whilst tourism is expected to triple. Added to this ‘urban explosion’ is the necessity to cope with a shortage of water resources. The Mediterranean coastal fringe is among 25 identified ‘hotspots’ of the world where biodiversity is at its greatest and is also most threatened. Understanding these issues, the overall spatial framework is developed through the identification of potentialities and constraints across multiple scales. In doing so, it develops a hierarchical ordering between forces and con-
flicts that are present. Learning from the failure of Spanish coastal development, the position we developed for the north of the region proposes an alternative model to the coastal linear city.

The Moulouya River, which collects fresh water from the Béni-Snassen mountain range around Oujda, represents the area’s largest body of water. The river-plain is at the heart of a vast but endangered production area of vital crops for the main urban developments of Nador, Saïdia and Oujda. The proposal to reuse the river recalls the design strategy of Rotterdam. What differs here is that the proposal does not rely upon a structural line but upon the identification of the river plain as a productive surface. Thus our goal was to use the armature of the river and the ecologies of the valley to build a strong spatial framework, a multifunctional landscape able to resist coastal growth and to inspire new possibilities of distributing land-pressure along the shoreline.

**FIG. 9 — A widened vision for the regional metropolis (mountain range framework)**

**FIG. 10 — Oujda’s protected heritage centre**

**ECOLOGY OF A CITY PROVINCE**

The north-eastern Oriental region, which extends from Oujda to Nador-Mlilia, through Berkane, Zaïo and the perimeter of the Lower Moulouya and coastline of Saida, constitutes
the principal development zone of the entire Oriental. This is where the four largest cities of the region are found, along with the majority of the population, most of the hydraulic potential and the strongest economy (with much transportation and communication infrastructure), as well as excellent tourism and recreational space. Oujda is the capital of the primary economic territory of the region that comprises the largest concentration of urban area in eastern Morocco.

Our proposal combines three key issues: Firstly, the development of urban centres around a knowledge economy, and the programming of economic and cultural development, guaranteeing economic competition. Secondly, preventing the spread of urban poverty caused by poor distribution of wealth, through the development of training courses for craft trades, health professions, and derivatives of the tourism sector. Finally, the concentration of the population leads to an urban growth and sprawl that does not seem to be managed. The proliferation of unplanned urban development calls for a reevaluation of the existing urban fringe.

As the Moulouya valley offers an already identifiable spatial framework, our strategy relied upon the much-needed implementation of a widened vision for the regional metropolis. The existing city’s change of scale to a city province marks out a new administrative territory 80km wide. This new perimeter surrounds the Oriental’s main centre of development. It comprises the Taourirt Al Aïoune corridor, the Béni-Snassen mountains, the Jraida hills and the plains of Kart and its extensions, as well as the foothills of the Rif (FIG. 8).

The rugged nature and geological structure of the Béni-Snassen mountain range show potential for the development of tourism and of specialised industries such as agro-forestry and craft production. Its central location between dynamic economic zones and major urban centres creates a structuring space for future territorial development.

This proposal is therefore based primarily upon a change in scale, from that of the existing city to that of an urban territory whose landscape structures consist of infrastructure and of natural park-systems in the form of the mountain-based thermal water sources in the region. Thus our strategy calls for a new spatial and political framework, an extended understanding of the skeleton as ecology, in which city and landscape are envisioned as a newly connected and interdependent whole.

The politics of preserving heritage sites by means of territorial development emerged in the Netherlands in the 1990s. Soon taken up elsewhere, this innovative principle is hinged upon the fact that preservation is only possible if the development of new spatial practices and cultural recognition is tackled. The value of a site cannot be determined by a label, nor frozen in time, but is constantly being redefined. This vision is interesting because it weighs up the possible future of a site and, above all, it turns constraints into new tools and catalysts for a project.

The desert is certainly a unique place at the gateway of Europe, a strong resource for the imagination but unassuming in terms of its development. The southern Oriental is a little-known
area, an abandoned territory in which we sensed potential. A single road running along a railway track abandoned by the French stretches over a distance of 500km. Crossing the pre-desert, this territory of wadis announces the proximity of the Sahara Desert and follows the closed border with neighbouring Algeria. Here we are in the realm of small nomadic populations who migrate over northern Africa. Other locals are shepherds who live in small villages within the margins of Morocco’s urban society.

The southern tip of the region, an eight-hour drive from the city of Oujda, features a string of oases, the most significant of which is Figuig. This city is built out of a clever water-collection and management network and its primary economy is based upon date-palm cultivation. The problem here is cyclical, the site’s water resources diminishing due to the over-pumping of groundwater. A direct relationship is to be built between the presence of water and how it is used, which veritably determines a site’s accom-
modation capacity. Fifty kilometres from the oasis, the city of Bouarfa terminates the abandoned railway line and possesses groundwater resources. Our proposal was to employ the unused railway line in order to connect Oujda to Bouarfa, as an alternative to the transformation of the road as the highway for tourist traffic. The train would create a unique experience of the desert and would also allow for the development of stopping-points in the old stations, where micro-economies are a potential. There is the potential to develop the city of Bouarfa, but Figuig’s groundwater table should be protected from over-pumping. The proposal is therefore based upon an alliance between two separate cities, making the case for a shared catchment area as a new hydraulic (and therefore political) entity.

Despite the fact that this project presented a certain number of challenges, I tend to retain trials and failures from which I can learn. Initially this project, developed in 2007, seemed to take part in a broader agenda. Nicolas Sarkozy was proposing a ‘Mediterranean Union’, placing France at the forefront of this strategic territory. With a few years of hindsight, with factors such as the abandonment of the project by the political powers involved, the coming of the Arab Spring, and Sarkozy’s loss of the presidential campaign, a totally new configuration of the future of this region had to be considered. The impossibility of predicting such rapid changes in the geopolitical context has been an important lesson. I have wondered: how can we structure long-term developments, taking into accounts some degree of uncertainty?
As a second lesson, this strategic project was the largest territory that the office had investigated, while the Carte Blanche project in Barcelona was the smallest commission the office had at that time. In order to grasp such a change of scales, the Oriental project stresses to me the primary importance of fieldwork and a geographical approach in recognising valid operative scales so as to design skeleton as ecology.

Thirdly, within a multidisciplinary team, the office assumed for the first time the responsibility for expertise in land-planning. The desert as a subject caused us some dilemmas in this study. As part of our group, a series of experts have noted in the southern part of the region a potential for investment and development. We had to fight conflicting positions with a top-down application of ‘territorial recipes’ that had little to do with contextual parameters. In other territories possessing very different economies, some architects are even dreaming up desert cities, which I have difficulty understanding. Thus, this project was my first exposure to the development of a critical position that I aimed to strengthen throughout the development of the PhD.

Lastly, this project allowed me to approach the structuring of space with an understanding of economic forces as agents, and thus as new tools in the development of a localised action plan. To be operational and thus strategic, this project lacked a mediation process. The way the study was conducted between members of the teams and local politicians was somehow opaque. After six months, local authorities cancelled the study without a clear explanation.

The next strategic project was developed with an understanding of these risks. It introduced a discovery made during its mediation process that had an important effect and that integrated economic forces more operatively.
CONTEXT
This pilot project, organised by the French Ministry of Ecology, sought alternative approaches to the development of the coastal fringe and explored visions for retro-urban growth scenarios. Over a one-year period several test sites were approached, ranging from small-scale villages to emerging mid-sized urban areas. Landscape was here considered a framework that gives structure to potentially uncontrolled growth in cities located in the coastal hinterland.

We investigated the *skeleton as ecology* on both a micro-level (with the municipal authorities) and on a macro-level (with the State). We also identified the ‘fringe’ as a possible place in which to elaborate links between rural landscapes and historic cities, between productive landscape and urbanisation. The coast was seen as a place of possibilities, with an unexpected potential to invent new forms of territorial cohesion at the interface of productive landscapes and existing urban areas. One of the main questions concerned the potential role of agricultural systems within a challenging economic context.

The two case studies presented consider the evolution of two small towns set back from the coast, where urban development is anticipated. Both towns are characterised by the presence of an identifiable hedgerow landscape that will become the *armature* upon which an ecological approach would be developed.

The French coastline study was the office’s first tangible project that allowed us to test our proposals *in situ* as project leaders and as consultants for the State. Organised through a workshop, it allowed us to experiment with a performative approach in conducting strategic operations.
PERFORMATIVE PRACTICE

The project’s uniqueness was that it took in not one location but 350km of coastline, testing new situations and hypotheses along the way. This work responded in part to the experience of crossing the Oriental, reflecting the idea of ‘movement’ not only through a large territory but also in terms of the evolution of the office over time. For the past seven years, our office has been moving between Rotterdam, Barcelona, Paris, and Brussels. The story of the office is one of a series of shifts and collaborations on experimental terrain. Starting in Rotterdam, we initially played with intuitive models in order to create the Superdune project, referring to and somewhat reworking the projects of mentors. Quite rapidly, the establishment of the office in two different locations was a decision that allowed for a critical ‘distancing’ from the other offices’ perspectives. A geometry may be drawn between these offices, figuring something of a constellation. In a way, this has the purpose of testing different operational contexts, but also of exceeding our respective institutional frameworks. It seems to me that our relationship to the landscape is also built upon a focus on shifts in space and time. The shifting from one site to another created by this successive relocating isolates specific moments and reflections exchanged throughout the journey. It therefore seems to me that if our initial exchanges concerned the projects of others, they very rapidly became meetings with landscape that influenced us. The journey along the French coastline was especially revealing of this process.

The idea of the coastline as a rugged condition becoming ‘thickened’ through the drawing of multiple lines led to an understanding of multiple paths connecting to the hedgerow landscape beyond. During these trips and through numerous fieldworks, I became sensitive to the decline of agriculture’s economic role. However, despite the optimistic view of Sébastien Marot, no single study has actually been conducted in the coastal hinterland territory of Brittany and Normandy. According to Marot:
“Since the mid 1980s, France has finally become aware of the true gravity of the crisis in the rural world and the agricultural economy. In an effort to prop up this economy, containment measures were taken that have since proven wholly unable to reverse the decline and abandonment of small land holdings and larger tracts of land. Moreover the growth of other economies, such as tourism and recreation, has moved into these agrarian areas without evolving their own culture of place making and settlement. Increasing awareness of this situation has led to the consensus that overall plans are necessary to help shape and direct the futures of these areas. The preservation of the legacy of these agrarian communities, the care of their resources, and the adaptation to new, changing economies demands true invention in the form of innovative landscape projects. These issues are leading to an enormous amount of study at both national and local levels, the force of which reflects the emergence of an awareness of landscape as public space, with the consequence that landscape architects are increasingly assigned the important role of consultant or master planner.”

Marot 1999, p. 49

This relatively late discovery, and the difficulty of determining a position in the Oriental project, allowed me to consciously take into account the role of economy in the structuring of the territory, as well as my own role. Throughout the research process, this notion of exchange has become important. Therefore we think of landscape not just as the formation of territory, but as a process of finding instruments to drive it and to share it, using design as a mediation tool.

In terms of the mediation process, this project marks an important shift in the course of the practice. If the previous projects (Superdune, Robust Forest and Oriental) were speculative strategies, the coastal workshop demonstrated a new mode of practice. The first phase was dedicated to fieldwork with the local politicians, in which an informal encounter with the site and its projected local vision was conducted. Following the fieldwork, we asked the politicians to visualise through maps their ambitions for their municipality. This usually took place as a
round-table discussion. In one session, in which we did not have any maps, we created a projection space. Our first experience of mediation was played out upon this improvised surface. From drawing projects to projecting (FIG. 1), we had the opportunity to test interactive drawing sessions as a powerful instrument in demonstrating and disseminating the designer’s ability to project spatial transformations. Approaching the project from two locations (the site itself and the mayor’s house) served as an open conversation between site, programs and ‘wish lists’ that were articulated into a broader agenda. What did the live drawing really do? In short, it was an act of co-production that made instantly visible on a map a possible spatial framework. While drawing the site onto the map, projected forces were tested and visualised, whilst incorporating the comments of the mayor. During the drawing, a hierarchical ordering between site and projected transformation was articulated. The drafting in fact embedded a strategist approach. On site and in the workshop, Sébastien Penfornis and I tested through scenario-making the potentials and the limits of the possible relation between the site’s conditions and the mayor’s projections. One of our main aims was to convince local politicians to adopt new urban forms that would accept a densification of the urban-rural fabric.
The town of Plouezoc’h, located on the Brittany coast, is seeking to define the conditions for its urban development. Currently about four hours’ travel from Paris, a high-speed train development will reduce this distance to under two-and-a-half hours’ travel. Within a few years, the urban population of the town will double when many of its seasonal dwellers become permanent residents. The increase in population will require new facilities, such as schools, daycare centres and local services. The proposal consists of the identification of the hedgerow structure to create both a spatial framework for urban development and also inhabitable landscape elements. The framework seeks to somewhat reinvent itself, based upon an existing vocabulary found in the landscape.
FIG. 1 — The hedgerow as a spatial framework that reveals the topography
FIG. 2 — ‘Cultivated Village’
The growth capacity of the city is tested along the development of the hedgerow energy matrix.

MULTIFUNCTIONAL ECOLOGY: ‘FROM LINE TO MESH’

During the fieldwork with the local mayor, a specific space in the core of the village was pointed out as a possible area of development. The proposed urban form contradicts the dominant model of individual habitation, which consumes 60,000ha of hitherto agricultural land in France annually. During our site visit, we recognised the existing hedgerow as a qualitative spatial component of the landscape. Our intention was to test the possibility of using it to structure new urban models (FIG. 3). The proposal urged the acceptance of the urban densification of rural villages and the reassessment of the terms that maintain agriculture.

In this first case study, the abandoned hedgerow landscape that gave a strong identity to the site was initially identified as having potential for the spatial framework. An important outcome of our workshop was the discovery of a dissymmetrical agricultural landscape. Plouezoc'h
FIG. 3 — The drawing reveals one line where the coastline becomes a thickened forest edge that is partly inhabited, a section of the ditch that prevents erosion and supports the growth of the hedgerow as an ecological mesh.
lies on the eastern side of a bay. On the western side of the bay, the hedgerow landscape has been demolished to expand open-field production that is relatively successful economically. On the eastern side, by contrast, the farmers are struggling to maintain their polycultural production. By turning the existing hedgerow into an energy matrix, the spatial strategy aims to provide farmers with a renewal of their economic resources. The energy matrix is intended to become the new framework for future urban expansion. The basis of this approach relies upon the very specific conditions of Brittany as the only region in France that is not directly dependent upon nuclear energy. As such, the proposal anticipated the recent mind-shift of certain French politicians, following the Fukushima disaster, towards an attempt to reduce the national nuclear plant network.
Being the first project that I conducted as team-leader of Taktyk, I was especially interested in practicing interdisciplinarity. For example, this proposal was tested by interviewing emerging local wood-energy companies in order to understand their organisational structures and modes of operation, through identifying different ecological approaches to the development of the hedgerow structure and through questioning the local agricultural association about its practices. Beyond energy production, the value of the hedgerow is that it performs multiple functions and services for biodiversity. Firstly, the hedgerow prevents erosion, capturing water whose pollution is then broken down by the plant systems. Secondly, the hedgerow construct is a mesh that acts like ecological ‘corridors’ and protects the field and the village from the westerly wind.
FIG. 5 — Adaptation of the different approaches to the local conditions to create 350 ha of wood energy matrix

PROJECT OUTCOMES

Our approach proposed expanding the existing hedgerow and testing its operative scale. The wider biodiversity of the site is actually the encounter between the land and the water – that is, the shoreline. Our proposal aimed to use this potential to expand inland biodiversity corridors. It was a requirement that enough energy was provided to satisfy local demand, whilst also providing maximal ecological performance as well as a qualitative spatial framework. FIG. 1-5 illustrates the notion of a ‘cultivated village’, whose amenities and services are distributed across a multifunctional landscape. This project stands out particularly from precedent projects in its ability to be applied operationally. The potential impact of these strategies goes beyond theory, reaching the level of implementation. On the other hand, the Oriental project and the Living Coastline project express for the first time a critical position in the arbitration of the phenomena of transformations at play: tourism’s forces on one side, and urbanisation processes versus the disappearance of agriculture on the other.
The town of Gavray is the capital of a rural province. For this reason, the town is home to both local services but also to infrastructure financed by the region. The main issue raised by its mayor was the question of how to limit the ‘thoroughfare’ nature of the town, whose central street was deemed a dangerous problem.
ECOLOGY OF RECOMBINATION: THE ‘DOMINO APPROACH’

In the approach that we developed, the reading of the existing site allowed us to identify a network of public spaces that was concerned with a context beyond the street itself. In Rotterdam, it had been the geological map that had revealed the sandbank. In this case, a historical picture of a livestock market in the town-centre, which we found in the mayor’s office, generated the idea of a fluid and eventful public space, questioning the relationship between the town and its territory, as well as the subject of animals in the town (FIG. 3). For example, the town is home to a veterinary centre renowned for the care of horses, and most of its clients belong to the international horse-racing industry. The strategy proposed building a spatial structure in line with the east-west hedgerow structure that connects the city to the open landscape. The veterinary centre would be relocated to a bigger field alongside the river, in proximity to a disused hippodrome, while the cross-generational town centre would be located in proximity to the farmers’ market in order to create intergenerational social interactions. The skeleton of public space was constructed phase by phase, with the introduction of new urban programs and complementary alliances between functions that do not usually relate to one another (FIG. 2). Performing this set of actions in front of the mayor, he recognised such a relocation strategy as a domino project that he understood and adopted directly. Our proposal and its mediation allowed the mayor to both re-view the implementation of urban programs and to construct a vision beyond his mandate. A new mode of practice had been discovered.
PROJECT OUTCOMES

The design methods and findings used in these two projects draws upon previous knowledge that I gained through my various academic activities. In 2010, following an invitation by Gini Lee and Julian Raxworthy, Sébastien Penfornis and I were exploring with 12 students in Australia some possible strategic approaches for the development of the Airlie Beach community in relation to the attractions of the Great Barrier Reef. Conducted in the form of a workshop, the students had to test their ideas with the local stakeholders and politicians. The proposals were synthesised into a set of visions and of preliminary actions to develop. This workshop took place within a broader inquiry, initiated by the office itself, about the urbanisation of the Australian coast. This previous experience was a major factor in our being granted this commission by the French Ministry of Ecology. Following the first studio on the French coastline, I became more exposed as a member of the pedagogic team of EMiLA (European Masters in Landscape Architecture) to the challenges facing landscape architects in redefining the future of the European landscape. In 2011 and 2012 in the Netherlands and Scotland, I took part in a series of investigations with students and stakeholders to explore through design the capacity of cultural landscape to be economically sustainable. Among the case studies, “New futures for old landscapes” has been used by the landscape architect Marieke Timmermans as a motto for the workshop. The Living Coastline project falls under the same enquiry.
The outstanding feature of modern cultural landscapes is the dominance of pathways over settlements...

Williams 1993, p. 381

The pathways of modern life are also corridors of power, with power being understood in both its technological and political senses. By channeling the circulation of people, goods and messages, they have transformed spatial relations by establishing lines of forces that are privileged over the places and people left outside those lines.

Williams 1993, p. 395

In this chapter, the lines of force are also present and they respond to logics which go beyond the studied sites. On the one hand, the coastal fringe of Brittany will be made accessible by the arrival of a high-speed train that will halve the time of the journey from Paris. The Living Coastline project therefore questioned the way in which we urbanise rural territories that are now influenced directly by a distant urban area, namely Greater Paris. The same situation is applied to the Oriental upon the introduction of a new flight-route. One finds within these two projects the lines of force evoked by
Williams. Our attempt is to examine in the case of the Oriental project how the corridors of power distribute wealth locally. On the other hand, we discovered in the Living Coastline project the entire absurdity of the indirectness of the major globalised economic routes. In front of the shoreline of Plouezoc’h village, we see cargo containers transporting Brazilian soya to the harbour of Rotterdam. From Rotterdam, trucks will deliver the soya to the local farmers. The strategy for the hedgerow landscape tests the possibility of creating short-cuts, advocating other scales of economic development based upon local resources and know-how.

In some regards, the skeleton as ecology in the Oriental project is a counter-model to the previous approach of armature (CHAPTER ONE). Using a clearer critical bias, seeking an alternative to the ‘Attila’ model of tourism, it operates through the definition of selected intensities in order to stimulate different flow patterns. As the gateway to the Sahara, we understood the experience of the very desertscape as the region’s main catalyst for tourism. Paradoxically, its quality resides in its difficulty of access, something that needs to be maintained. Whereas the majority of our projects make space to contend with urban growth, here we left space open for ‘drift’ in Europe’s closest desertscape.

This shift initiates a discussion within the current debate about the dissolution of a clear territorial figure that emphasises the region as a continuous surface that is open to various regimes of flow: flow of matters, goods, vehicles, materials, living forms, and so on. In this regard, Archizoom Associati’s project entitled No-Stop City (1968–71) anticipates the later work of Andrea Branzi, who provides one model of non-figurative urbanism — that is, an urbanism in which any pre-existing landscape structure or pattern is excluded from the new model.

“We can read these emerging tendencies through three unbuilt projects that advocated for decentralised agrarian urbanism: Frank Lloyd Wright’s ‘Broadacre City’ (1934-35), Ludwig Hilberseimer’s ‘New Regional Pattern’ (1945-49), and Andrea Branzi’s ‘Agronica’ (1993-94), and its further development, ‘Territory for the New Economy’ (1999). Although produced decades apart by three very different authors, these projects, considered collectively, illustrate many of the implications of agricultural production for urban form; they also form a coherent intellectual genealogy, with Branzi referencing Hilberseimer, who earlier had been informed by Wright. Each of these projects proposed a profound reconceptualization of the city — a radical decentralization and dissolution of the urban figure into a productive landscape. The dissolution of figure into field rendered the classical distinction between city and countryside irrelevant, replacing it with a conflation of suburb and region — a suburbanized regionalism.”

Waldheim, 2010

My approach to the multiple polarisation of landscapes, however, relies firstly on an understanding of the land as a differentiated productive surface that retains its figurative characteristics. This logic of differentiation is by definition one of the capacities that is required in a landscape architect. In relation to No-Stop City, defining the ecology of distribution in the Oriental project we recognised the logic of a superposition of lines of movement and of events but tried to achieve an understanding of the relationship between surface, lines and distribution through the natural geography of the site.

What may be specific to the Oriental and the Living Coastline projects is their different response to the logic and figure of decentralisation that was advocated by Kevin Lynch in the last triad of the city model he proposed, namely the city as an organism (the Ecological City). Shane explains:

“When Lynch rejected the Ecological City model as inadequate (...) be still found it useful for it highlighted the conceptual shift from the city as a centrally controlled, centrally organised, standardised system (...) to the city as a self-organizing, differentiated, multicentred, ecological constellation.”

Shane 2005, p. 56

Between the non-figurative and the organic approaches to landscape and urbanism, a conceptual difficulty still exists in visually captur-
ing the image of a city. Within the discipline of urban planning, the use of metaphors generally allows for the addressing of the hybridisation of city and landscape. Thomas Unger and especially Patrick Geddes were pioneers of this approach. Such research uses the skeleton not as an actual metaphor, but as a model whose subsequent definitions inform the structuring of contemporary landscapes.

“Creating order,” Lynch says, “is the essence of cognitive development.”
Lynch cited in Shane 2005, p. 31

The shifting definition of the skeleton is used as an investigative tool for the research to capture not an image of a landscape structure but a mode of operating for the practice. The skeleton as ecology responds to an extended understanding of the term ‘ecology’ and a holistic approach to landscape architecture.

In her essay ‘Shifting Sites’, Kristina Hill reviews the major theoretical shifts in ecology over the past few decades. Of particular interest is her argument for the use of metaphors in considering ecology as an organism or even as an economy. For Hill, metaphors bind the physical world to the mind:

“Cognitive research has shown that metaphors are fundamental to human thinking in everyday situations (…). Metaphors do not exist in a vacuum, of course, but in the richly physical world of embodied experience.” She uses metaphors to encapsulate an extended definition of ecology, like ‘super-organism’, “as if the interactions among species can be compared to the interactions among individual organs within a body.” Finally, and most importantly, she argues for a holistic approach to ecology: “Simply put, ecological scientists have replaced their expectations for determinism and predictability with expectations of greater complexity in ecosystem behaviour (…) and it has also led to an increased ability to understand fluctuating human economies as components of ecosystems.”
Hill 2005, p. 134

The hybridisation approach is, for instance, manifested in the Living Coastline project (CASE STUDY 1), in which the coastline is not treated as a boundary but as a set of interfaces and relationships that activate a cultivated and inhabited hedgerow surface. The development of the town of Plouezoc’h isolated a series of urban typologies that define different relationships with the hedgerow and the existing forest fringe (FIG.). Looking closely at the nature of my intentions, the ecologically designed landscapes create, in my view, hybrid networked spaces between the urban and the rural fabric that are interwoven, juxtaposed or layered, resulting in the ‘thickening’ of the coastline.

This initial understanding connects to a broader discussion raised by Robin Dripps (2005), who advocates for a redefinition of the understanding of ‘edges’:

“In nature, edges are never thin and unambiguous, but instead thick, overlapping, and even generative. For instance, the ecotone where two ecosystems meet combines qualities of each system. The niches and sanctuaries within this thick boundary make it one of the richest locations for finding a broad diversity of organisms.”
Mollison cited in Dripps 2005, p.85

Dripps extends this notion of overlaps, referring to the modern redefining of categories of knowledge in the fields of sciences, philosophy and the arts.

“A boundary is not that at which something stops but, as the Greeks recognised, the boundary is that from which something begins its presencing.”
Heidegger cited in Dripps 2005, p.86

Above all, the skeleton as ecology is primarily a re-evaluation of boundaries as porous spaces. Mollison, Heidegger and Hill each give a definition from the scientific and philosophical perspectives. Here again the metaphor of the organism is a powerful conveyor of complex porous conditions privileging exchange as a value:

“The experience of living in a body that appears to be separated from its surroundings by a skin has been very influential in the development of metaphors about the nature of biological relationships.”
Hill 2005, p. 135
Within the field of urbanism, the analogy of the dissolution of the city as a porous condition has been explored brilliantly by Cedric Price. A well-known representation of the city is characterised by the ‘Three Eggs Diagram’ (1982) by Cedric Price, which somewhat echoes Kevin Lynch’s models by representing the dissolution of a city that has become fragmented and territorial. Grahame Shane in his work *Recombinant Urbanism* (2005) informs us that each style of egg describes a different pattern of relationships, a different organisation of the city, a different organisation of control and power.

Price’s diagram and Bernardo Secchi’s research on the diffuse city question the possible dissolution of the city into the territory. This evolution calls for new modes of enquiry to detect and to define adapted frameworks and is best exemplified by Bernardo Secchi and Paola Viganò’s research on the diffuse city. In the late 1980s they became pioneers in recognising the emergence of new settlement patterns that, for them, implied new systems of exchanges. Operating between academia and the practice, and combining different modes of practice, this studio has been a great source of inspiration to me because of their recognition of the hybrid dimension of the landscape. Interesting here is the application of their findings in their vision for the Greater Paris proposal, entitled ‘Porous City’, which questions, “How and to what degree can one turn the ecological question into a democratic one?” For them, “To read and design porosity means dedicating attention to practices, changes, fractures in spaces, urban materials and availability, possibilities for new flows.”

More precisely, their investigations open a whole range of ways to rethink the city by emphasising the need to invent new narratives: “To be represented, porosity needs to follow circumstantial evidence, fieldwork, close reading and storytelling.”

Viganò 2011, pp. 96 & 106

**ECOLOGY OF RESOURCES: TOWARDS A HOLISTIC APPROACH**

The second part of this chapter focuses on the definition of a performative multifunctional landscape. The *skeleton as ecology* aims to manifest a holistic approach in the structuring of landscape. This approach was already used in the Superdune and Robust Forest projects, but benefits here from the implementation of a multi-disciplinary operational way of working, a certain ‘reality check’. In the case of the Living Coastline project, for example, the participation of an environmental specialist led to the discovery that the ecology and biodiversity of a site are strongest at
the interface between cultivated land and coastal areas. This realisation confirmed my initial decision to treat the coast not as a line but as a surface that extends out to the land’s hedgerows, whose potential for structuring urban programs and providing farmers with a renewal of their economic resources was tested with an economist and proposed to the participating municipalities.

The projects presented in this chapter emphasise fieldwork and tacit knowledge. These encounters with sites fuel my curiosity as a landscaper and the landscape forms that I come across during my travels shape my gaze. To be more specific, I maintain with these territories a relationship that is not mimetic but I understand and am looking for their embedded forms as reflecting their organisation systems. This research process has enabled me to rebuild forgotten but tacitly-known links, and to understand how lived spaces inform my thinking and my decisions. The landscape skeletons that I design correspond with intensive productive landscapes that have left their mark on me and that I continuously renegotiate and reformulate in relation to new contexts. This approach recalls the notion of the ‘radicant’ developed by Nicolas Bourriaud, who reflects in his essay that the postmodern condition is fuelled by a ‘multiple rooting’ across territories as a catalogue of forms and experiences, which corresponds partially with my approach.

“The radicant develops in accord with its host soil. It conforms to the latter’s twists and turns and adapts to its surfaces and geological features. It translates itself into the terms of the space in which it moves. With its at once dynamic and dialogical signification, the adjective ‘radicant’ captures this contemporary subject, caught between the need for a connection with its environment and the forces of uprooting, between globalisation and singularity. (...) It defines the subject as an object of negotiation. Contemporary art provides new models for this individual who is constantly putting down new roots, for it constitutes a laboratory of identities. Thus, today’s artists do not so much express the tradition from which they come as the path they take between that tradition and the various contexts they traverse, and they do this by performing acts of translation.”

Bourriaud 2009, pp. 51-52

For instance, in the Netherlands the scarcity of land introduced me to an understanding of uninhibited economic logic through territorial planning. I left Versailles and its physical approach to sites and went to the Netherlands to experiment with the design of large territories. At the Van Bouwkunst Academy, my first workshop began with the site’s resources, rather than with the site itself, questioning the future of the country’s Westland region by taking the decline in horticultural production as a hypothesis. In some ways, this workshop gave me a multifaceted approach to the design of a project. In the Oriental, the three ecologies of the site were evaluated through economic criteria that tested their capacity for tourism development. That is to say that, within each defined ecology, a specific potential for development was outlined together with the definition of strategic investments. This process has exposed me to invisible parameters that I did not recognise at this time, including the state of service and education infrastructure, the potential of demographic growth, and access to income (among others). My experience in both the Netherlands and in the Oriental region has opened my design investigations towards the reading and findings of respective projects’ financial resources.

I think that a pattern common to the Living Coastline and Oriental projects is to adopt an approach of combinatory tactics that I can sum up as the following: how may spaces that we design support different functions? This approach builds upon the intersection of other disciplines and calls for transdisciplinary knowledge (e.g. public economics, agronomy, etc.). The Living Coastline project reflects this emphasis on cross-disciplinary thinking. In this case, studying the logic behind cross-programming permits the financing of public space through the implementation or relocation of existing or future public programs and private entities (veterinary centre, public library, school, etc.). The project is accompanied by a tangible financial cost-calculation that aids in securing the implementation and the sharing of the project.

The Living Coastline project served to give farmers not only a way to make a living but also
a new role within an urban-agricultural society. Thus, a complementary approach to the stimulation of the economy is the reusing of leftover infrastructure (for example, the train-line built by the French in the Oriental region) and the reusing of the structures of the declining agricultural industry. More specifically in Price’s approach, I refer to the Pottery Thinkbelt project (1966), which demonstrated the holistic ambitions defended in this chapter. In this project, Price proposed a mobile university to re-educate unemployed workers, envisioning this university in an abandoned industrial area and using the rich rail infrastructure there.

Furthermore, there is also my understanding of space that I developed in India, which pragmatically compounds an understanding of the culture of resource cycling. For me, the ‘forest gardening’ of the coffee plantations of southern India is not merely a reference-point in terms of layered living systems but is a concrete example of cultivating nature as a resource. Each coffee garden can be associated with a community. In the study of the preservation of the oases of Figuig in the Oriental project or the extension of the hedgerow structure as an energy source in the Living Coastline project, the spatial project has been developed with the aim to achieve such a cohesive framework. The scale of the hedgerow structure being sized according to the anticipated urban development implies particularly an inter-dependency of landscape with built environment as well as a direct relationship between a qualitative and quantitative approach.

Interdependency is a condition of the hybrid landscape that I seek to develop. At the 2013 GSD Harvard Conference on Ecological Urbanism, Andrea Branzi presented his latest reflections entitled ‘The Weak Metropolis’, which acknowledged another form of interdependency between urban and agricultural spaces. For Branzi, the Indian city is a cosmological city, a model for a new relationship between man and nature and for a new aesthetic. One of is seven suggestions for a ‘New Charter of Athens’ is to “…realise (as in the Indian metropolis) the conditions for a cohabitation between man and the animal kingdom, technologies and divinity, alive and dead people. A metropolis less anthropocentric and more open to biodiversities, to the sacred and to human beauty…”
Branzi 2010, p. 111

ECOLOGY AND NATURE AT WORK: DESIGNING ‘THE LARGE’

The third dimension of the skeleton as ecology concerns what Elizabeth Meyer called “the aesthetic of performance.” Meyer states that designed landscapes are considered from two perspectives: how they look and how they function ecologically. What is missing from this critical position is how appearance itself performs. Much attention has been given to process thinking – marking a shift from object to field, from form-making to force-shaping – in contemporary art and design. At the same time, major debates about city-making have tended to generate much abstraction. I therefore wonder: how we can re-enact the question of perception? Meyer states that “what is needed are designed landscapes that provoke those who experience them to become more aware of how their actions affect the environment, and to care enough to make changes.”
Meyer 2010, p. 6

She also underscores the work of geographer Denis Cosgrove, saying that “he argues that cultural products such as works of landscape architecture can change human consciousness.”
Meyer 2010, p. 10

In the design of skeleton as ecology, my approach is, on first sight, quite pragmatic. The forms of nature that I recall are by definition extra-large and dynamic. The aesthetic of the landscapes that I design appears as bold and raw. The Super-dune is a good example of a powerful landscape in motion, while the Robust Forest and Living Coastline projects supersize the existing forest and the hedgerow landscape to emphasise cultivation as a performative agent in transforma-
tion and cohesion. In the Living Coastline project in particular, the research on the hedgerow looked simultaneously at the operative scale of intervention to effectively generate energy and at its physical implementation to re-establish a qualitative relationship to the coast. Sketching the possible patterns that the hedgerow mesh could take, I was especially interested in the way that it could emphasise the slope of the terrain towards the sea. From the sea this would reveal a homogeneous mesh, which would be experienced locally as a specific ecosystem that would express the local biodiversity conditions in relation to the coastline. This approach has been very much inspired by the work of the fashion designer Sonja Bäumel, who has made clothes from fabrics which host bacteria that grow in interaction with the skin-specific ecologies of wearers. Thus the designer uses biological knowledge to produce an adaptive mesh as a second skin. The mesh is an ecosystem in itself as well as a piece of fabric. This example demonstrates inter-scalar connection between very different design techniques and operations.

Meyer states that indeed the fabric of contemporary landscapes will support the perception of new forms and natures:

“Sustainable beauty may be strange and surreal.”
Meyer 2010, p. 19

On the one hand, there is the fabric of a sophisticated nature (for example in Bäumel’s work). The design is firstly an interface, a new layer that is added to the existing one and that comes alive through the activation of existing dynamics. This example provokes and suggests a powerful embodied experience, using a sophisticated and technological approach to nature. My approach is bound to textural intensity that a person can feel and to a scale that rejects the over-fragmentation of much contemporary landscape. Recalling Branzi and Meyer, one of the most interesting dimensions of ecology is that it binds the very smallest beings with the very largest universal systems, the visual to the sensory.

Following on from this, I will outline how I use an inter-scalar approach in the design of large-scale visions in relation to other practitioners.
My intention is to design productive or effective landscape systems that are at the scale of a community or a metropolitan area, whilst understanding the consequences that a strategic choice in one area could have on another territory. The Oriental project is particularly demonstrative of this approach. For example, the study of the intertidal valley of the Moulouya River as a coherent spatial framework allowed me to see the necessity of understanding, through a trans-scalar approach, what is occurring on and beyond the site of operation. The study of the existing system of agricultural production (including its infrastructure of distribution and the local population’s social fabric) led to an understanding of local, regional, national and transnational relations. Doing so, we considered the serious risk of urban sprawl by the city of Oujda, which could become an urban corridor heading for the sea and for the agricultural valley of the Moulouya. We thus saw the necessity to rethink different pattern of growth for the city. Our intuition was to enlarge the scale of reference and the political boundaries of the existing city to those of a city province structured by the armature of a network of natural parks. In doing so, the territory has been constantly reframed through the subject in question. The example of the interconnected condition of a coastal context and a distant city creates another type of thickening of the coastline. This notion fits into the reconsideration of site conditions as illustrated by Kahn:

“The site has three distinct areas. The first, most obvious one, is the area of control, easy to trace in the property lines designating legal metes and bounds. The second, encompassing forces that act upon a plot without being confined to it, can be called the area of influence. Third is the area of effect – the domains impacted following design action. These three territories overlap despite their different geographies and temporalities.”

Burns & Kahn 2005, p. xi

On the other end of the spectrum, Catherine Mosbach touches upon ecology’s relationship with the ultrathin, the microscopic, by designing parks (see previous chapter). Despite the gap that exists between the expressions of our respective practices, certain commonalities can be drawn. One could say that the Oriental and the Living Coastline projects proceeded rather like the designing of a park: they ‘assembled the fragmented’ in a search for new relationships between aesthetics and nature. The comparison, however, is void as soon as one looks to work operationally on a large scale. This is the main criticism levelled against proponents of the landscape urbanism theory, for whom projects are primarily concerned with models of urban parks, whether OMA’s Parc-de-la-Villette or James Corner’s Fresh Kills project. Even a very large multifunctional park cannot really be used as a model to develop a large inhabited territory.

In this regard, my work is closer to that of Walter Hood who repeats a simple method of constructing ecological landscapes at full scale. Working within the context of the San Francisco Bay and using a 5 x 5-mile grid, Hood identifies and isolates coherent ‘pieces’ of existing ecological landscape from the Bay as models to then implement in disused urban voids. Doing so, he is searching at once for nature’s aesthetic and performative aspects. In an identical manner, the Superdune and Robust Forest proposals, as well as the Living Coastline and Oriental projects, developed landscapes at full operational scale.
CONCLUSION: DESIGNING ROBUST LANDSCAPE

Using the analogy of the rose-pruning, a primary understanding of ‘robustness’ has been established through reference to the strengthening that occurs through the act of pruning. This specific action, calling for a careful and selective (strategic) approach of the place of action, is here engaged at a very different scale. Nevertheless, the aim is to create the same condition of robustness.

Looking at and reflecting on the nature of the different operations undertaken in the projects, I would like to extract three types of findings with regard to this conversation:

Firstly, the previous skeletons were developed as armature, stressing the importance of geological resources. The skeleton as ecology contributes to a broader understanding of ecology that goes beyond a closed definition of the world based on a simplistic man/nature opposition. If armature reflects the condition of an endoskeleton, the term ‘ecology’ defines the exoskeleton of a landscape – the cohabitational organisation of natural and human activities. The three facets of the skeleton as ecology advocate an integrative and holistic approach to the design of landscape. I discovered that the impact and effects of infrastructures, the identification or creation of resources, and the scaling of the landscape structure to perform ecologically, represent three conditions that support the robustness of a landscape framework.

Secondly, during the course of the PhD the definition of ‘landscape skeletons’ has looked for an expanded agenda beyond traditional park and garden design. The Living Coastline and the Oriental projects, by dealing with the development of large-scale regions, used an integrative approach to seek new alliances with political or economic systems. Doing so, the capacity of the landscape process to act as a powerful catalysing force was tested. Primarily geographical, this attention within the design began to include forces that shaped the landscape (be they logistical, economic or infrastructural) and therefore new models of practice had to be drawn that could operate in the realm of the city region. The landscape project is seen as an integrator of multidisciplinary knowledge.

Finally, the Living Coastline project reflects my interest in exploring the borders within and between spatial contexts and fields of study. Whereas the previously discussed projects (Superdune, Robust Forest) were speculative, this section reflects upon the impact that commissioned works have had on the practice. Evolving from the shaping of nature to the design of processes of transformation, the previous two projects in Normandy and Brittany assumed greater responsibility for and control of design operations.

The experience of the Living Coastline project has allowed me to identify the necessity of engaging in the processes of structuration that determine, beyond physical space, a new domain for intervention. Concluding the book *Designing for a Region*, Bruno de Meulder draws upon Charles Waldheim’s reflections in order to identify a specific moment for the design project on a regional scale:

“Maybe somewhat provocatively one could argue, together with Charles Waldheim, that regional planning is renewing itself despite of planning and thanks to a ‘rapprochement’ of the design disciplines of architecture, landscape architecture and urban design. Waldheim actually postulates an ‘expanded agency’ of design that re-engages with the larger forces and flows of economy and ecology. (...) No wonder that today’s more clever and interesting projects invest a lot in these explorations and in the creation of a situation in which they can be fruitful. The French system of marché de definition explicitly uses design as a means to clarify problem formulations and project definitions, both preconditions for concept development.”

De Meulder 2010, p. 226
Within this French tradition of project definition, the Living Coastline project has been developed as a prototype to test a new role for the state. This experience has impacted my practice significantly. Several successful outcomes can be observed. Firstly, the result of these sessions allowed us to witness directly the impact of the design speculations. For the first time beyond the scale of a garden I could act as a conductor of possibly large-scale transformation processes. Thus the whole process of the coastline studio was to use our office as a mediator between the national public authority and the local representatives of the state and the mayors. Beyond the mediation process, an action plan had to be produced that engaged the representatives of the state and the local mayors.

In addition, the design is used here to test the capacity of the national laws that regulate developments along a shoreline to be adapted by the mediation process. One of the main outcomes for mayors was the idea that a broader strategic plan could help to structure urban growth among different municipalities, thus creating a common ground for projects beyond the timeframe of their own political mandates.

The Living Coastline project was attempting to define across different stakeholders and territories a possible framework for projects. Earlier on, Price and Lynch defend a performative urbanist approach. I am particularly interested by the trans-scalar approach of Lynch who “worked at both the global, strategic scale of the city region and the scale of the local tactical urbanism.”

Shane 2005, p. 67

In particular, Lynch’s large-scale Ecological City design strategy drew heavily on the work of landscape architects and regional planners such as Frederick Law Olmsted and Lawrence Halprin. The latter will be referred to in the next chapter, in a discussion of the ‘score’ approach as a new modality for the skeleton and for the practice operating as an orchestrator.
Bibliography


In the previous chapters, the projects have been structured with particular attention given to ground condition (armature), or to the logics of the hybridised landscape that highlight notions of movement and flow (ecology). Both of these attitudes outline an approach to space and time that seeks to control space through geometry, through the research of spatial configurations, and through a linear understanding of time. In one respect, these projects present themselves as ‘landscape script’.

The PhD was initiated by an interest in scripting landscape through the notion of representation. My initial questions focused on ways of representing transformations in the landscape. During the research, I realised that the projects that I develop do not seek to represent the landscape but rather to act upon it; the question of representation becomes not an end but a means of intervention.

Without real interactions with the commissioning body of the Oriental project, this approach initially proved to be frustrating and mostly fruitless. The experience of drawing sessions throughout the duration of the Living Coastline project highlighted new design tools. It allowed me particularly to immerse myself in the more operational aspects of the project, in an iterative logic using the exchanges created by the design process.

Chapter Three builds upon this discovery that took place midway through the research process. The three projects discussed in this chapter consider landscape structures based upon the juxtaposition of differentiated interventions, expanded over large areas. This approach calls for new representations and ways of carrying out a project. Here, mapping is used as both a design tool and as a form of project mediation that is not driven but guided. This is the principal distinction from the methods of practice explored in the previous chapters.

This approach calls for the understanding of new modes of practice, from the gardener, through to the conductor and the orchestrator of landscape transformations.
The first figure is that of Lawrence Halprin, whom I discovered relatively recently, and from whom I borrow the term 'score'. For Halprin, the score is a means of notation to represent time and to make visible the action of humans upon space. In Halprin's view, the score is a way to stimulate and to guide the processes. In particular, it stands out as a linear approach, with which he associates the term 'system': "...the importance of pointing out the difference between 'scores' and a system is basic to the idea of this book. A system is a closed and defined body with a beginning and an end. A system has a goal, and in order to achieve the goal establishes a specific way or technique of operation. A system is logical and sequential; it requires inputs but not feedback (...) Scores have some characteristics of systems, but they differ profoundly. Scores are related to processes. Scores describe or initiate or energize processes. Scores include, in fact stimulate, elements of chance. (...) Systems organize, scores guide."

Halprin 1970, p. 195

Within this chapter, the Liquid Sky project is a first introduction to the design of score, whereas the Constellations and Kontich Action Plan projects develop more sophisticated outcomes. Finally, this chapter identifies the issues linked to these new terms and outlines the contributions of other practitioners in this conversation. This chapter is particularly concerned with looking at the contributions of three generations of landscape architects: the reinterpretation of the design of 'score' used by Halprin, the reconsideration of the concept of gardening by Gilles Clément and, more recently, the concept of the performative image by James Corner.
CONTEXT
Continuing the work on large-scale landscape strategy, the call for proposals for the Gustavo Gili publishing house in 2008 recalled reflections from the period of the Superdune project on climate change. As in Rotterdam, the question concerned the future of a particular space within a larger geomorphological system, in this case the island of Murano in the Venetian lagoon, a territory which was at that time unknown to me. I chose to participate in the ideas competition, attracted by the unusual setting of the project. Working for a publisher would also be a novel condition, calling for a different approach to a landscape project. Very quickly it became important for the team to propose not an image but a narration of a process based upon a synthetic tool: the map as toolbox. The lagoon therefore became an imaginary territory of projects that were drawn, starting from a map that we imagined can be given to visitors to the lagoon. Such a map was merely indicative: the most important part was the index that made the map operative.
Inhabiting the lagoon — the system, it is free, awaiting a project. How? Where?

A powerful long term vision for this territory.

They built the future image of Venice — the machines generate experience, produces a form of mechanical beauty.

They formulate a clear index for the maintenance, living and leisure. Yes they are our primary tools.

First, by looking at the present conditions:

Second, we propose a tourist map and...

What’s the main idea of your project?
DESIGNING THE SCORE: VENETIAN INDEX

This project was developed in four stages, which I will retrace here in order to identify the project’s implications in the working of skeleton as score. It commences with a fascination with the body of water that is the lagoon. As in Rotterdam, the competition rapidly became a pretext for exploring the possibility of developing a reflection on a larger scale. Developed from Taktys’s satellite office in Barcelona, it was also an opportunity for me to develop new forms of collaboration, and to test the hypotheses of design work carried out at a distance. The whole competition was constructed out of collaborative work with Solène Leray, a landscaper based in Paris, and Erik Habertfeld, a graphic designer based in Amsterdam, and then developed further in collaboration with the practice in Paris, who developed the research on the specific Venetian boat (gondola) typologies.

In the first phase, during the initial exchanges, Leray and I were interested in the possible representations of the lagoon as an imaginary and dynamic aquatic space. Our first intention was to create a reading of the territory as a narrative space expressing several voices. Further, we intended to associate designers and graphic designers with a writer (though this idea was later abandoned). This first step comprised extensive research using the tool of mapping specific and opposite phenomena that influence the ecosystem of the lagoon. Three mechanisms were recognised: sedimentation, erosion and flow (FIG. 4). To the east, the presence of sedimentary deposits blocks the circulation of water necessary for spaces of biodiversity protected from the lagoon. Throughout the whole lagoon, the decrease in water currents diminishes de facto the oxygenation of the marine environments necessary for developing fishing. At the centre of the lagoon, a specific and fragile ecosystem of low-lying land is exposed to the intensity of water movements that are eroding it, while simultaneously the land suffers from the localised pollution of boats. On the northern industrial edge the pollution is more severe.

In a second phase, the project proposal crystallised out of the figure of a gear (FIG. 1) that will find other expressions in the practice’s upcoming projects. Each piece of the gear characterises a transformational mechanism to be implemented. It acts to encapsulate in a simple analogy the idea of simultaneous and differentiated actions performed by the movement of boats. In order to reinstate Venice’s relationship with the water, we proposed to use engineering and ecological
What's the main idea of your project?

Is there any architectural concept behind your project?

They formulate a clear index for the

The machines generate experience,

First, by looking at the present conditions:

Second, we propose a tourist map and

The lagoon has a natural tendency to silt up. Its water suffers atrophy

Erosion, sedimentation, flow

Venice is a museum, a contemporary universal know how heritage, so

Inhabiting the lagoon

The core of the lagoon transit is the Murano Dredge Park, an energy sta-

Maintenance Machi-

The knot of the loop is the

The city. What if (a certain idea of) Venice would sink ?...

The lagoon, as a unique resource for a vast metropolitan field. Loop

— 1

Welcome to the Liquid sky !

In a wave of movements is used for all the lagoon activities.

...The outcome is a place without a fixed form,

— 2

The core of the Venice lagoon

Erosion, sedimentation, flow

The machines generate experience,

The machines generate experience,

The lagoon as

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work as infrastructure to re-envisage the lagoon as a unique resource for a vast metropolitan field. Strategic occupations are proposed across this fragile archipelago of natural ecosystems and urban attractions in order to allow both inhabitants and tourists to share a renewed expression of Venice as water-territory. Their implementation acts upon a very wide ‘loop’ of urban locations: the airport; the new arrivals terminal in Sacca San Mattia; the Lido, and an area to the south of the lagoon with a unique and shifting urbanisation comprised of houseboats (FIG. 5). The loop manifests itself through movement – movement of boats, of people, of goods, of waves – all of which create currents in the lagoon, as though lines are traced on it. The knot of the loop is the Murano dredge-park.

In a third phase, the project’s development involved the implementation of a specific toolbox, which we termed the Venetian Index. Our proposals transformed the battles between forces and flows – between sea and land, erosion and deposit, local and tourist traffic – into a dynamic system built around chain reactions whereby geological, ecological and urban systems are integrated into spectacular forms. For example, the lagoon has a natural tendency to silt up and its water suffers from eutrophication and pollution. Natural sedimentation and artificial erosion are therefore balanced in order to sustain the emerging ecological zone and to create land to inhabit in the lagoon.
Tidal movements and waves created by transport boats cause erosion dynamics and energetic pulsations (Fig. 6). From the airport to Sacca San Mattia, this wave-energy garden is the landmark that represents the entry gate to the lagoon; seen from both the water and from the air, the lagoon is therefore a spectacle on a local and a global scale. Micro-wave energy is produced with an erosion protection mesh that responds to boat movements. Tidal movements and waves created by transport boats generate erosion dynamics and energetic pulsations. However, the energy created by water movements is used for all of the lagoon's activities, so we cannot oppose either human presence or the protection of the lagoon, both being symbiotic. Finally, in order to enjoy the lagoon we reinterpret the form of the Venetian gondola into three typologies: machines (the lagoon as a construction); temporary Venetian housing units (living the lagoon), and entertainment (the lagoon as a leisure place).

In the fourth phase, the knot at the centre of the lagoon was developed as the unique hub of strangely juxtaposed activity in the Murano dredge-park: it is currently a derelict site, the destination and dumping-ground for all the surplus sediments of the lagoon, and is thus an observatory where tourists ‘meet mud’ (the very essence of the lagoon’s ecosystem). Our proposal sees this destination instead as a huge event space, a playground for the city attracting artists, bird-watchers and clubbers alike. The intended outcome is a place without a fixed form, a space for large-scale manifestations whose appearance will change from year to year, creating a new Venetian topology.

PROJECT OUTCOMES

Mediating between current context and future potential, between visible and invisible phenomena, the design process privileges the elaboration of scenarios that test the intensity and continuity of the design operation. As opposed to the previous chapter, which reflected upon our first large scale commissioned projects, the nature of the Venetian project is essentially speculative. Its principal contribution relies upon the introduction of the score, the design of processes as a new design methodology, while relying upon previous findings. In particular, looking for similarities across our design work at large scales, four findings can be outlined:

An important aspect is the use of flow, that being the flow of tourism as a primary transformative agent to inform the shaping of landscape, recalling the previous chapter concerned with the ecology of distribution.

Seeking to orchestrate transformations in this project, I discovered, is a matter of designing constraints and control/release mechanisms that are occurring simultaneously. For example, the score is built upon specific protective ecological actions (against eutrophication and land erosion, and for water-quality improvement) and the development of tourist activities, which are usually understood as threats (such as traffic between the airport, the main island, and new tourist routes and residences in the lagoon area). The integrative approach between forces in conflicts is a different manifestation of the holistic approach that has been developed in the previous chapter.

The project opens up an expanded design repertoire by focusing on the recognition of a set of actions, tools and protocols that could inform at different scales the ‘Index’ of the projected map. In particular, each of the operations that are developed in the score of the Venetian project is referring to a specific approach of scale, from short-term action to large-scale landscape regeneration. Its massive approach is actually needed to battle the current sedimentation of the lagoon and respond to the approach of ecology at large, as discussed in chapter 2.

The construction of scenarios through diagrammatic narration allows foresight, anticipating potential spatial transitions and transforming chain reactions. As such, the project approaches prospective design by defining an operative framework. The next case study elaborates on the previous approach, going beyond simple projective ideas towards a stronger understanding of monitoring approach.
FIG. 7 — Perception of the wave garden

FIG. 8 — Dredge park
CONTEXT
This project is a response to a consultation strategy for improving public spaces in the town of Kontich, located in the province of Antwerp. It continues the research carried out in the Liquid Sky project into the concept of mapping as an intervention tool.

The spatial framework here is the evolution of a natural agricultural territory that is gradually being urbanised. Located near Antwerp, Kontich benefits from a large concentration of school groups and attracts many new residents wishing to enjoy the landscape setting of the town. The mapping approach is used here to identify the progressive urbanisation of an originally agricultural structure. This transformation process proposes a dichotomous situation by privatising an entire grid of valuable public spaces at the heart of the town: on the one hand, the town centre and, on the other, the remains of an agricultural plot. The public space examined in the consultation is in fact the result of a gradual fragmentation.
Début 20ème
urbanisation de la campagne
Fin 20ème dissolution des limites
consommation du territoire et des ressources
(industrialisation)

Prospective
reconnaitre une structure paysagère forte
travailler sur la porosité de la ville et du paysage
densité urbaine / densité paysagère

Transformations du territoire
15ème siècle une terre fertile, composée de forêts alluviales et de prairies
18ème siècle culture du territoire
défrichage de la forêt et mise en culture
19ème siècle urbanisation du territoire
extension urbaine, nouvelle infrastructure
creation de parc forestier

FIG. 1 — Reversing the progressive erasure of the garden forest structure (in green)
THE SCORE FOR ACTIONS

Our response to the invitation of the competition was informed by our reading of maps detecting three levels of strategic interventions.

Firstly, looking very closely at historical maps, I could synthesise the nature of the transformations that had occurred over three centuries, during which an important network of garden structures was gradually erased or substituted through a process of urbanisation (FIG. 1). I proposed the reinforcement of Kontich as a city-park in order to make the city porous, to literally allow the re-emergence of its characteristic history of cultivation. This strategy recalls the concept of the porous city discussed in the previous chapter. It is translated here by the implementation of an action-card based on the observation of opportunities: detecting where voids exist and can be re-filled. As in Liquid Sky, this proposal is based upon several scales from various different mechanisms.

Secondly, at the scale of the town, I recognised on the existing map of the city a strong landscape figure that is already in existence (FIG. 3). It is composed of a part of the agricultural and forest fringe and a network of private gardens that are embedded within the urban fabric and can participate in the redevelopment of public space. A key question, then, is how to intervene in private space in order to design a public space strategy. Public space is here expanded as a system of interactions with the domestic domain (habitat and garden).

FIG. 2 — Public space as a system of interactions to reveal a strong landscape figure (source: ARJM)

FIG. 3 — Landscape matrix
Thirdly, through site-visits and mappings, we discovered that the town centre is unique in that it contains a high concentration of schools and is traversed by many students. At the scale of the town centre, partly neglected garden plots have been identified right at the edges of the public buildings – plots that can be bought by the city in order to develop new amenities related to the schools. The intention is to expand the network of garden-passages across the city as new ‘soft’ public space networks: that is to say, a continuity of natural spaces that support a free range of outdoor activities for the school communities. These plots are seen as being able to extend a system of paths and are identified as a priority area for public intervention. The budget for a possible redevelopment of public space in the town centre is mobilised here for land acquisition. The interest in these plots is that they connect the city centre and its municipal park with the agricultural fringes and schools. The *armature* of the project is expressed in the form of a diagram that distinguishes the ‘grey network’, which is a public space system composed of streets and squares, and of a new set of parks ‘irrigated’ by an entire network of paths and cycle routes that therefore become vectors for uses of the landscape *armature*.

### PROJECT OUTCOMES

The interesting aspect of this *score* as an action plan is that it aimed to design simultaneously a spatial strategy for the open space and a strategy for the modes of intervention upon it. Its action covered public, private and stakeholders interests. At the scale of Flanders, a regional program offers a grant scheme that funds the cultivation of forestry on industrial or private plots. At the scale of private plots, such a grant mobilises an urban planting program in order to...
FIG. 6 — The process of substitution is adapted by site typology (source: ARJM)

A — The leftover void in between infrastructure becomes a local pocket park
B — The edge of the city supports a new bicycle path
C — The replanted private gardens partly define the quality of the public space
unite residents and other locals around a shared project. At the same time, the Kontich Action Plan was in my experience the first approach to score that I could test in a public consultation. Specifically as an ‘action map’, the score proposed here is tailored for the project’s client and intended to be the driver of an urban participatory project. The grant policy as a motor for the process is accompanied by the participation of the population, stimulating loyalty to the project. Expressed with the help of a synthesis map and a “kick-off” programming event, the action map had the capacity to synthesise and communicate in a cohesive format a complex, multi-scalar strategy was integral to being awarded first prize in the competition.
CONTEXT
If the Liquid Sky project began with a conceptual approach, an attempt to remotely map the site-forces present, the project Constellations in Liège commenced with an invitation to compete for the project of extending the Ramioul Forest, which features an open-air museum that introduces the prehistoric era (thus it is known as a préhistosite). The request was rather peculiar, asking designers to define a possible educational dimension to be developed on a site that is partly located in a protected natural forest space managed by the museum. The competition directly questions the notion of ‘man against nature’ in our contemporary societies. The men, women, and children of prehistoric times left their impacts, like all societies that have preceded us. What impacts will we leave to future generations?
FIG. 1 — Heterogeneity of the museum site
The Ramioul Forest (where one will find the famous Ramioul Cave, the Carmeuse quarry, the museum, the Wallon Contemporary Art Centre, housing and social residential centres, and factories) is classified by the EU as a Natura 2000 site. Its biodiversity is the result of a series of linked interactions over time, whose factors are economic, social, cultural, and natural. Today, the Ramioul Forest is frequented by local people for walking and relaxing in a peri-urban area. The fourth phase of the préhistosite development, whereupon we entered the project, envisaged the evolution of the prehistoric museum into a site museum, which contemplates current as well as future times.

The proposal is based on multiple challenges: what is the meaning of a prehistoric site museum in relation to the development of a landscape interpretation? Does it act to represent the universal history of humans? How can we achieve that without being too reductive, or creating a theme park?

**THE SCORE AS DYNAMIC ASSEMBLAGE**

The previously discussed projects have been based upon recognised spatial armatures – the dyke (Superdune), the forest (Robust Forest), the hedgerow (Living Coastline) – that support cross-programming. While the extent of the Liquid Sky project represented an open space on the map, the forest museum was actually made up of extremely varied and complex situations that at first glance have almost no relationship to one another, leading to a real difficulty in understanding the site as a whole (FIG. 1). The main reflection of the project lay in a double question posed in part by the site and in part by the program. Neither site nor program imposed anything obvious.
The approach to the site, and the difficulties of taking inventory by mapping and of detecting possible spatial figures despite multiple visits, quickly became qualities to exploit in the project. The first sketch attempted to capture the types of circuits in the existing forest, in its fringe-areas, and along a stream, by following a terrain line (FIG. 2). The drawings helped to identify areas, specific sequences, and relationships (FIG. 3). These included: the Ramioul Cave, which represents an area of unique geology in the south of Belgium; the River Meuse, and its industrial banks; the still-active limestone quarry, and the protected forest with its clearing that had been created by a storm. Through situations — piece by piece and in fragments — a site map is constructed. This identification process became important in the formulation of a working hypothesis.

Our approach to the program was conducted by identifying what is already there, in order to understand the presence of humans and of other living forms. The representation of composite images became a means of capturing and expressing certain contradictions and tensions in the program’s statement (FIGS 4, 5 & 6). If the site museum aimed to be the showcase of a natural area, it is in my view a collage of signs of entropy, of human action upon the site, with traces of industry along the Meuse and of quarrying being clues. In search of other references to museum sites, the Lascaux Caves were found to represent a certain risk. The caves have indeed experienced such an impact from human visitors that the site has been closed in order to protect its heritage and to be restored. At Lascaux, the experience of a prehistoric presence is simulated by a virtual museum scenography, seen via an internet platform. In the context of other sites with connection to prehistoric times, such ‘simulation’ goes even further when genetically modified cattle are actually introduced to the fields, their image then becoming an icon of a re-historicised landscape (FIG. 4).

The project initially raised a question about the interpretation of the site: what relation does it have to the notion of natural space? It is then necessary to address the intensity of the potential uses of the site that define its hosting capacity?

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**THE SCORE AS ELASTIC SPACE**

The project’s central issue quickly became a matter of taking a position on which posture to adopt. Do we build a picturesque landscape, a scenographic composition according to a logical course of didactics? Or can we develop an alternative to a controlled, pre-drawn landscape structure?
The project takes the brief very literally: which human traces will remain in the future? The definition of the project comes from a simple model that roughly sketched the topographic condition of the site. I would place elastic bands onto the model one-by-one to visualise the possible evolution and erasure of an imaginary path. I later found out that the use of elastics to figure shifting lines of movement has literally informed the project. In a polemical manner, the proposal wishes to make not the visitor but the forest its subject. ‘The forest as labyrinth’ becomes a moving device through which a person becomes an actor in his or her own poetic experience. The work of Pascal Convert, who draws lines as an expression of landscape movements (FIG. 6), has been a conceptual guide for the encapsulation of the project.

The term *constellations* apparently takes the figure of the ‘gear’ that was introduced in the Liquid Sky project but develops it in new ways which take the form of a game. The whole ensemble is expressed in the form of cards, some of which may be deposited in small stands are placed around the site. The collection of these cards allows a permanent assessment of the impact of visits, and the adaptation of an appropriate management plan.

To create the game’s base, ten stations are chosen from an inventory of the site’s biodiversity, its geological oddities, and its landscape situations. In our opinion, the site possesses various conditions defined by the site’s levels of fragility and responsiveness. The site-mapping becomes a matter of defining the levels of constraints derived from three levels of interventions. Firstly, the caves, the forest clearings created by the storm, the edges of the active quarry, and the steep slopes of the wooded valleys are examples of accessed areas that are subject to a certain fragility. Then we had to take into con-
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sideration numerous spaces on the edges of the site and around the museum that are either directly exploited or that require small degrees of transformation in order to create new practices through the introduction of activity programs (a vegetable garden, an access bridge, a lakeside pier, etc.). The third posture proposed inserting invented places of all types: incongruous surprises across the site, objects that interrogate the visitor.

For example, these three levels are shown here:

Fragile / The storm of 2005 reopened a portion of the forest by creating clearings. No replanting was proposed. The site became an observation-base made interesting by the potential colonisation of the space (FIG. 8).

Available / An overhead electricity cable acted as a division-line that created a slice in the site that could be kept aside for the site’s management. This abandoned linear void actually found a further use as a vegetable garden. This linear garden is used as a gateway to the site from the surrounding village. Its produce reintroduces forgotten species into the restoration of the museum (FIG. 9).

Shared / Different spaces are made available at the neighbouring contemporary art museum in order to expand its exhibitions into the open air (FIG. 10).
FIG. 11 — The walk as an experience of the site.
All stations are associated with four categories of approach that can be amended over time. The first, ‘Observing nature’, is a guide that can be adopted in the space. ‘Understanding’ includes scientific information about its stations. ‘Acting/transforming’ considers the history of humans on the site. Finally, ‘Sharing/exchanging’ gives visitors the opportunity to express themselves on their visit.

The Liquid Sky and Constellations projects are associated with recreational practices. They both wish to engage in a symbiotic approach in which human become agents in the transformation of landscape. The difference from the Liquid Sky project is that Liquid Sky’s toolbox had been mainly informative. In the context of the Constellations project, this became performative in by way of a game. The game is a way of mak-
It is also a monitoring system that defines a set of constraints by using a value system (levels of fragility). The game aims to produce two results: it activates the practice of the visitor, and helps to guide the development of a dynamic management. Somehow the open space becomes literally a framework. This notion was somehow tacit in the practice and became fully visible through modelling the site using elastic and, later on, through the definition of the different constraints and values to compose the cards. This discovery has re-opened my eyes to an approach of open processes initiated four years earlier in the Liquid Sky project. The PhD process allowed me to recognise this approach not just as one of technique but as a mode of intervention – namely, being an orchestrator.
Used widely in the fields of music and dance, Halprin’s use of ‘scores’ interests me from several points of view. For Halprin, the score is a way to stimulate and guide processes:

“The natural environment is the physical matrix for human communities, so it is important to discover why it is, what it is, and the how of its developing that way. I have called this ecoscoring (...) the value of ecoscore is that they make visible the consequences of action.”

Halprin 1970, p. 98

**SCORING AS A LEGIBLE PROCESS**

The Liquid Sky project, realised in 2008, was a first approach to a series of transformation mechanisms developed in simultaneous ways. The project provided a set of intervention tools covering regeneration, housing, transport and leisure processes. In carrying out this project, the ‘orchestration’ approach required neither logical order nor phasing as described in the previous chapter. The proposition for each site can be developed individually. The spatial organisation is determined by mapping the site’s phenomena, which can shift around within it. The project toolbox was developed through identifying the needs of the site. The Liquid Sky proposal is primarily a dynamic space-management project for the fragile ecology of the Venice lagoon.

In the Constellations project, the modes of action on the site became more sophisticated. This project questioned the idea of actions. From what point is it necessary to intervene on a site? What is the minimum necessary action needed to engage in for the transformation of a site? What is the minimum requirement in order to change a place, and when does it become too much? What can you leave open? The projects seek to defend a holistic approach to landscape by placing humans inside the landscape. In this sense, each project is constructed out of touches, atmospheres, moods, relationships and open associations. The projects stimulate symbiotic processes that destabilise any established binary opposition, any categorisation between humans and nature. In the Kontich Action Plan, for example, the search for a symbiotic and holistic approach recognised the importance of the private
initiative as a driver in the construction of the new public space framework of the city centre.

The three projects presented in this chapter attempt in their formulation to better recognise this dimension of time and process, in which each of us constructs our own understanding. The projects could, on the one hand, be summarised as the development of landscape narratives and the construction of mental images that Corner called the ‘imaging process’:

“If landscape architects construct ideas, then the role of imaging in idea formation and projection needs to be better articulated than simply by opposing ‘artistic’ renderings to ‘technical’ working documents. In other words, perhaps a key to understanding eidetic imaging in design is found in a kind of thinking that is neither instrumental nor representational but simultaneously both.”

Corner 1999, p. 164

Corner argues for an imaging approach that should make legible and visible the process of creating a landscape. In the same way, Halprin in his approach emphasises this key aspect of the scoring process as the mediation of a project:

“Community scoring needs to enable all these processes to continue, to effect results to promote interaction and feedback, individual and collective input and decision making. It needs to function not only to guide process but to make process visible.”

Halprin 1970, p. 174

Looking at these three design propositions (Liquid Sky, Constellations and the Kontich Action Plan) what is significant is firstly that the design of process through different scores (an index, a game, an action map) enables me to expand the scope and target of the design strategy. Secondly, each of them proposes a renewed approach to the monitoring of nature between ‘cultivation’ and ‘autonomy’. These two terms are borrowed from Stefano Boeri, who introduced them within the context of the Ecological Urbanism Conference (2009), organised by the GSD at Harvard University. Boeri introduced three forms of reconciliation with nature: mimesis, containment and autonomy. For Boeri, “the first is that of imitation or the attempt of man to reproduce natural forms without understanding their function.” The second is described as “confinement, corresponding to the notion of cultivated nature.” The latter approach claims autonomy, a position that for Boeri “is represented by Gilles Clément and his ‘third landscape’ concept that advocates for the right of biotope spaces to exist outside of all human action, in the abandonment of a form of control and direct action on these spaces encountered in forgotten spaces of infrastructural wasteland or other industrial wastelands of our European cities.”

Boeri 2009

Within the French School of landscape architecture, Clément represents an innovative landscape figure recognised more for his theoretical positions than for his realisations. Of particular interest here is his approach to the garden in movements as an attitude towards landscape management that follows Corner’s insistence:

“...gardens are defined less by formal appearances than through the activities of gardening. (...) In the working landschaft, performance and event assumes conceptual precedence over appearance and sign.”

Corner 1999, p. 159

The ‘garden in movements’, which offers an alternative method of practicing gardening, can be summarised as a different way of open-space management that is based upon recognition of living dynamics. Clément takes as a case study his own garden as a laboratory, where for more than ten years he followed and gradually adjusted the development of his plants. This acts as a ‘soft monitoring’ that passes through observation as a prelude to action. The Liquid Sky project, and especially the Constellations project, seemed to adopt this approach, whereas the spatial armature of the early chapters was retained by lines of force and a stratified approach. Outside of the wave-garden, the Liquid Sky proposition limited itself to defining areas for possible intervention. The specific location of the action was not framed and can only been found through careful on-site observations. In the Constellations project, the dynamic evolution of the site implied that the pathways may partially and yet continuously move. Thus their presence may be erased through time and replaced by new natural development. The man-
agement consists of deciding when to protect or to not protect the site from the impact of its uses (and its users). As such, the monitoring is left open to the evolution of the site and successive feedback loops are integrated through the monitoring concept. This opening is equally present in the strategy for the Kontich Action Plan, which provides for a framework and a starting-point of action but does not predict the outcome of private initiative.

**SCORING**

**THE ELASTICITY OF TIME AND SPACE**

The projects in this chapter are looking for a decentralised network structure across an entire surface, which is defined through a series of constraints and values. The other difference concerns an acute awareness of a work based upon an open non-linear process. To me, the innovation brought about by Clément is concerned with the importance he has given to the dimension of time as well as to duration as an operative space of intervention.

In particular, it seems to me that this approach takes the distinction that Henri Bergson made between time understood as succession, and the notion of duration as a flow and an interweaving of different temporalities. According to Bergson, we cannot define time either as a multiplicity of moments, or as immobile stages of specified duration. Duration proposes an understanding of time as “the continuous progress of the past which gnaws into the future and which swells as it advances.”

*Bergson 2008, p. 4*

Bergson tried to encapsulate this difficult notion by drawing upon some analogies. One of these, using the example of an elastic band, may complement the Constellations project:

“Instead, let us imagine an infinitely small piece of elastic, contracted, if that were possible, to a mathematical point. Let us draw it out gradually in such a way as to bring out of the point a line which will grow progressively longer. Let us fix our attention not on the line as line, but on the action which traces it. Let us consider that this action, in spite of its duration, is indivisible if one supposes that it goes on without stopping; that, if we intercalate a stop in it, we make two actions of it instead of one and that each of these actions will then be the indivisible of which we speak; that it is not the moving act itself which is never indivisible, but the motionless line it lays down beneath it like a track in space. Let us take our mind off the space subtending the movement and concentrate solely on the movement itself, on the act of tension or extension, in short, on pure mobility. This time we shall have a more exact image of our development in duration.”

*ibid., pp. 164-165*

Manuel de Landa developed the same argument in his book *1000 Years of Non-Linear History* and insisted specifically on the concepts of recombination and juxtaposition that this conceptual framework may generate:

“We live in a world populated by structures – a complex mixture of geological, biological, social, and linguistic constructions that are nothing but accumulations of materials shaped and hardened by history. Immersed as we are in this mixture, we cannot help but interact in a variety of ways with the other historical constructions that surround us, and in these interactions we generate novel combinations.”

*De Landa 1997, pp. 25-26*

With the understandings of Bergson and De Landa in mind, the projects that I expanded upon in this chapter share an approach of dynamic juxtapositions. In particular, the structuring of spaces based upon fragments requires an approach to the orchestration of open and non-linear processes that exceeds the ‘master-plan’ approach. The projects developed in this chapter test how to go beyond the visual and to experiment with a performative approach to the design inquiry. These proposals cannot be reduced to perspective representation. In the Constellations project, the visitor becomes an actor responsible for the transformation of the site because the idea of developing the site with marked routes has been refused. The desired intention is to create an elastic space that unfolds in a recognisable and reversible manner according to the practices of the site. The pro-
ject no longer takes shape via a map, since it is inherently constructed by experience and by the individual. This mode of composition destabilises the ordinary linear sequences of the picturesque landscape in favour of its colliding scales, sounds and atmospheres and thus escapes conventional representation techniques.

**SCORING FEEDBACK LOOPS**

The projects in this chapter structure the landscape through control/release mechanisms that both allow action on a site, whilst at the same time leaving open the possibility for the later improvement and transformation of the project. The landscape project is therefore situated between a visualisation strategy and a tactical organising of present forces. The understanding of these aspects in the course of the research had a significant impact on my methods of design. Orchestrated landscape projects seem to define themselves in their operational impact via the development of (user) guides. The distinction of these three projects is to allow the possibility of opening up the transformation processes in an iterative manner. This involves the sharing of values and the ability to understand orchestration that is based upon open partitions. Their organisational principles involve in a fairly successful manner the concept of ‘feedback loops’. In a direct continuity of this approach, the use of score in urbanism argues for the Open City, as defended notably by Kees Christiaanse:

> "The Open City cannot be designed; it has to be produced via active intervention strategies. The urban designer’s instrumentalism does not consist of a clear cut urban development plan, but a strong vision that takes the status quo as the starting point, is implemented through gradual transformation, and can react to changing circumstances. The design of the implementation process is thus as important as the actual design itself (...) The Open City is neither a utopia nor a clear cut reality, but a situation, a balance between openness and closedness, between integration and disintegration, between control and laissez-faire."

Christiaanse 2009, p. 36

In Constellations, the proposal for the museum site expanded in the form of an open game that allowed for visitors’ feedback to be gathered, simultaneously making them participants in the project. The records of this game somehow constituted a time-based interface between the design project, the managers of the museum, and the public. Each course on the site had an impact on the others. In Kontich, the structuring of the project brought about the reconquering of public space from project support mechanisms in a participatory manner. It seems that the formulation itself of the ‘project as action plan’ exceeds the concept of imaging presented previously, and is closer to the community scoring presented by Halprin:

> “…community score do deal with values, are selective, and do imply valuation. In that sense they are human-oriented and not completely and permissively process-oriented. In the diagram outlining the steps of procedures, community scores will originate with Resources (R), proceed through Score > Performance (S,P), and as part of feedback – involve Valuaction (V): RSVP.”

Halprin 1970, p. 150

In Liquid Sky the toolbox was not defined by the actors identified on the site, thus remaining somewhat theoretical, inactive. In the development phases of the Constellations project, the ‘living structures’ work of Lygia Clark has acted as a conceptual guide. In one of her works she has used a single material (elastic) to create evolving structures out of various participants. What interests me in the photographing of this action is the notion of the interdependence of individual actions.
CONCLUSION: 
EXPANDING DESIGN

The gardening approach of Gilles Clément, by introducing the notions of time, tools and process, has enriched my initial understanding of the analogy of the rose-pruning as a model for action. As a gardener learning through score, my fields of enquiry have extended towards the approach of orchestration, thus questioning: how to act?

The Living Coastline project became operative, something we had not experienced earlier in the evolution of my practice. It first allowed me to gain confidence in carrying out the mediation of a project by drawing. It also created a certain frustration, one of not being able to ascertain the scope of action once the commission had been completed. In a way, this chapter questions ways of approaching each site with a strategy that defines its correct toolbox. In the context of the Living Coastline, the national debate following the pilot project gave birth to an ‘action list’ that, without precise application, remained merely an intention. The translation of a project is never necessarily guaranteed by its own legislative framework and policies.

Overall, the approach to orchestration in this chapter is different from previous approaches in that it expands the scope of design through tooling, a process of empowerment. Tooling seeks to expand design through advocacy. The main characteristic of the skeleton as score is to be stated in the form of the toolbox, which is intended solely as guidance for potential tools and methodologies, rather than as direction or instruction for the selection or utilisation of specific technique(s). It is left to the user to determine which technique(s) are applicable, and what is ‘value-added’ for their purposes. Its final important aspect is that the best toolbox is one that grows over time.

The main impact of this practice-based research is the recognition of this approach of mediation and non-linear process. In the final chapter I will attempt to respond to and to test these findings and their impacts upon the office’s modes of practice, operating as a platform.
Bibliography


Whereas the Carte Blanche project discussed in Chapter One concerns a certain freedom of spatial invention, the design concern in this case is to respond to an open brief launched by the Brussels region to define the quality and the future of its public space (PROJECT P1). On being commissioned to pursue this investigation, the rapid clarification of a position was required to define the future spatial frameworks of the space. I will discuss firstly the determining of this position, which built upon knowledge that I have been discussing in the previous chapters.

Using the specificity of Brussels led to the idea that, to orchestrate the transformations of landscape, another form of the ‘skeleton’ could be imagined: the office could operate as a *platform* for design: that is, creating or stimulating the context to enable others to act. This specific moment sits where the trajectory of the PhD merged with the practice. Thus the early findings of the research process would be cumulatively embedded in the design work in progress. The case studies in this chapter are developed through the discovered modes of practice (*armature, ecology* and *score*).
Chapter Four presents a reflective project – a ‘project-of-projects’, in fact, on the design of the public space of the City of Brussels. Four case studies deal with a specific understanding of a site’s context beyond topological considerations, capturing Brussels firstly as a place with a government that is not strong enough to take action. This is to say that decades of planning investigations in Brussels did not manifest into approved and realised projects. Most of these design strategies have failed to become operational.

As an enabler, I value the transferability and the dissemination of a position which allows for that position and my roles within it to further unfold. I question how to be more effective and impactful in shaping the city, I seek new operative instruments to respond to Brussels’ context, and I privilege the tactical activation of spaces in order to inform strategic thinking. Through the development of the platform, I discovered that I actively engage as the strategist (PROJECT P1A), the steward (PROJECT P1B), the pedagogue (PROJECT P1C) and the curator (PROJECT P1D).

These four roles or ‘lenses’ will be used to frame the last conversation of the PhD. I will conclude with the platform being a vehicle for multiple practices that attempts ultimately to define a larger agenda for the public space of Brussels.
CONTEXT
The commission from the Brussels region’s Department of Planning sought to define the role and nature of strategic public space for the year 2030. This regional vision supports an emerging debate about the city’s transformation into a polycentric metropolitan area facing four major challenges. Positioned at the ‘crossroads’ of Europe, Brussels is attracting a large number of residents from the continent and beyond, whilst also suffering from increasing poverty, a lack of decent public transport infrastructure, and problems with flooding.
Following calls for expressions of interest (EOIs), Taktyk was awarded the commission for responding to a particular context. Firstly, the call lacked any structured framework and, in fact, the brief that I received took the form of a letter of invitation (FIG. 1). It required that submissions develop an improvement strategy for public space in Brussels that can also be transposed into a schematic development plan for the region. This plan should be a response to a demographic increase in low-income families. Unlike calls for projects in France, which for decades have been informed by past experiences and have contained structure and direction, one of the particularities of Brussels’ administration is its inability to formulate clear standpoints on implementing strategic plans of action for public space. This call for EOIs did not refer to any precedent, scale or scope of study and methods of investigations, let alone to desired outcomes. A second consideration for this commission is that, during the period of the project, Belgium experienced an unprecedented political crisis, which earned it the dubious world record of enduring 521 days without a government. Whereas the previous projects in Chapters One, Two and Three were based on the study of sites and sometimes on their programs, the particularity of this commission was expressed in terms of its contradictions and more obvious paradoxes.

I saw this apparent problem nonetheless as a chance and opportunity to respond to an unprecedented challenge, given that the Taktyk office had just then settled in Brussels. As the call for EOIs requested the development of a brief, it was the practice’s first opportunity to establish a design research framework for the city.

INTRODUCING BRUSSELS

Unlike the Living Coastline project (CHAPTER TWO), our multidisciplinary team initially lacked any expertise about the territory in question. Very quickly we had to find various ways of becoming familiar with the site. Going beyond territorial investigations, we had to invent a context to stress the creation of city knowledge, which took the form of meetings and public events. Above all, we had to deal with a series of ‘discoveries’ that would challenge our design speculations. The first discovery was that, as the capital city of Europe, Brussels possesses none of an institutional capital’s characteristic visible traits in its spatial organisation. This was the main argument and quest of academic speculations conducted by Pier Vittorio Aureli at the Berlage Institute in 2007. Aureli sought a clearer physical manifestation of the status of Brussels. As part of the IABR exhibition entitled Power and the City, Aureli observed that, “As direct political expressions of much larger extra-territorial units than themselves, such as the nation, they [the Capital Cities] formed the basis of the modern metropolis. Indeed, the modern metropolis is first a product of political power concentration and only later an outcome of economic accumulation...their exceptionality as geopolitical loci of representation helps us break free of mystifications such as the end of geography and various network theory and constantly rediscover the power of the city’s physical centrality and its absolute relevance in the constituting of any politics.”

Aureli & Tattara 2007, pp. 19-20)

Aureli further developed this research, proposing the possible expression of Brussels as the European capital. In our strategy, we also questioned the role of Europe in the shaping of the city (FIG. 3) and were mainly interested in responding to the social challenges and the spatial fragmentation facing the region.

In reality, the establishment of the European Union has failed to trigger economic growth in Brussels. It is a poor city in the heart of Belgium, a city in which household income is earned outside of its administrative scope and can therefore not be taxed accordingly. The territory is dynamic but not necessarily rich. The city area suffers from significant discrepancies in development. A major feature of Brussels’ urban tissue is that its spatial form is typical of old European cities while its sociology is closer to that of US post-industrial cities. The poor remain in the city centre, while higher-income populations live in the region’s perimeter. In particu-
lar, the canal today is an urban boundary that is detrimental to the area’s urban future. It is presently an urban divide, a public ‘non-place’, where metropolitan cohabitation is not allowed. This canal space became the main priority zone of our interventions.

THE STRATEGIST

The role of the strategist is to define a spatial vision for the longer term and the operational spaces or conditions to act. I investigated how I could structure fragmented landscape production at the scale of the region in Brussels, which is characterised by weak government and scattered initiatives. I sought to find not only a spatial armature for the public space but to determine who on the regional level could or should be responsible for the production of public space. The main idea that I present here is to re-assert a polycentric framework of public spaces that reconstructs the landscape from three operative layers (mobility, polarities and landscape frameworks). Each layer represents a spatial structure (armature and ecology) and is accompanied by a possible set of actions that identifies a possible actor at the regional scale (score). The method used to inform the strategy comprises a multiple-scale approach. Firstly, the macro- and regional visions of the territory – determined during the workshops with experts and practitioners organised by the platform – informed the construction of large-scale maps, in which we sought to draw relationships between parts. Secondly, our analysis of the territory through fieldwork and our pilot projects, as micro-visions of the territory, allowed us to mark strategic locations, relevant fragments, and supporting conditions onto the maps. Ideas were then tested using the platform activities (workshops, debates, forums, masterclasses, publications) as a space for reflections beyond the traditional modes of practice. In a way, the platform enabled us to improve our design whilst enabling others to contribute to our proposal. Thus a position was defined.
DESIGNING THE SKELETON OF THE REGIONAL PUBLIC SPACE

LAYER 1: NEW MOBILITIES

In our explorations we discovered that a large part of the public space production in Brussels was based on the road system, an approach that is fairly traditional in Europe. However, despite previous efforts by the region, the place for pedestrian and public transport mobility remained poorly defined. In our strategy, the future of public space in Brussels lies largely in the restructuring of the existing road system, on the one side, which will accommodate new typologies of mobility; and, on the other side, in extending the existing network of public transport across the region (FIG. 7).

Without being provided with the relevant maps by the client, the office began the extensive activity of searching, gathering and producing a set of maps that would help to visualise strategic opportunities for public space and urban developments. For example, in our observations we mapped the main rail and road infrastructures as being actual ‘ruptures’ in the city (FIG. 2) as well as the position of large scale mono-functional zones (FIG. 3). Adding to these maps we included the existing networks of realised bicycle tracks and pedestrian routes. This collection of maps soon revealed a set of disparate tracés (FIG. 4). The overlaying of the three maps revealed in the canal zone both a high level of urban fragmentation and the presence of public space.

In our view, the structural axis of the masterplans had to be reinterpreted according to the regional geography. The canal zone is in a valley, thus we thought that the road system could reveal the topography of the region. From a reading of this landscape we identified five axes (FIGS 5 & 6) that we were able to reconstruct in relation to the canal valley (framing a view of the valley through linear ‘piercings’). Our study was conducted iteratively and in conjunction with the BUUR office’s strategy for the densification of the city region. Together we would evaluate mainly how new urban forms could generate new public spaces — or how new public spaces could support new urban densities. Our identified structural axes for new public space soon became potential sites for new high-rise buildings as geographical markers in Brussels.

INSTRUMENTS

A new hierarchy of the existing network infrastructure was revealed through this approach. To counter the fragmentation of the road network by municipalities, we proposed three scales and levels of governance: regional; shared (across two or three municipalities), and communal. Our proposition for the regional network was named the ‘axis contract’ and it promoted transport-infrastructure projects that favoured urban density and access to public-transport stations. Beyond this simple desire, we identified the ADT (the region’s territorial development agency) as being the best possible public body to mediate the negotiations between the different transport authorities and the different levels of government.
FIG. 2 — Road/ rails as barriers

FIG. 3 — Monofunctional areas (clusters in yellow, urban amenities in orange)
La métropole est victime de trop nombreuses inondations. Les pentes sont très nettement les zones à risque. Une solidarité métropolitaine doit être établie à ce sujet.

Il existe des espaces agricoles sur le territoire régional. Ceux-ci sont quasiment repoussés aux limites de la Région. On constate cependant une forte présence d’espaces agricoles à l’Ouest et au Nord-Est. Par contre, ces espaces, sans cesse repoussés par la ville qui s’étend, sont insectiblement morcelés.

Il existe différents systèmes de cadrage de vue au sein de la métropole bruxelloise. En premier lieu il existe de nombreuses vues de vis à vis le long des vallées et de certains vallons. Dans un deuxième temps, on constate quelques perçées visuelles linéaires. Enfin, on compte aussi quelques points panoramiques. Par contre, la vision de mont à mont est des plus délicate.

Malgré la grande diversité des plans et mesures en cours, la place du piéton et des mobilités douces n’est pas encore assurée. L’opération chemin de la ville est par exemple encore trop restreinte. Elle devrait être étendue à l’ensemble du pentagone ainsi qu’aux centres villaggiois.
FIG. 7 — Identification of the primary regional road system

OUTILS MÉTROPOLITAINS

Les trois outils proposés permettent d’aller au-delà des frontières communales tout en maintenant leurs spécificités. De la même façon, ces outils proposent une nouvelle lecture de l’espace régional, ce dernier n’est plus dès lors radio-concentrique mais polycentrique.

5 SCHÉMAS DIRECTEURS PAYSAGERS

15 CONCOURS INTERNATIONAUX

CONTRATS D’AXE RÉGIONAUX

FIG. 6 — 5 lines of tracés are derived from the landscape and support the densification through new urban forms

VERS UNE STRUCTURATION MÉTROPOLITaine


LÉGENDE

GEOGRAPHIE

fond de vallée
vallée
lignes de crêtes

MOBILITES
infrastructures métropolitaines
autres infrastructures structurantes (prd)

ProJEC t P1
La constitution de Bruxelles en tant que capitale européenne a aussi profondément modifié les espaces publics de la région. La création de grands quartiers d'affaires a notamment transformé l'image de la ville. Mais l'ouverture du centre vers les périphéries est encore timide.

Cette préoccupation d'aller au-delà d'une vision focalisée sur le centre n'est pas nouvelle. En ce sens, les grands travaux du roi Léopold II ont fortement marqué Bruxelles et ses espaces publics. La volonté était alors de transformer l'image de Bruxelles et par la même occasion d'aller au-delà de la seconde enceinte.
FIG. 10 — Fifteen polarities that support the vision of a polycentric city

In order to do this, we followed the same methods outlined in the previous section, which included demonstrating through mapping the possibilities of developing public space at the scale of the region. Using the approach of *armature*, we firstly drew the major *tracés* (a system of large avenues) and the system of parks built by Leopold II (FIG. 8) onto an existing map to include the nineteenth-century structure of the capital of the Belgian kingdom. To these first maps we added the planning projects that related to Brussels’ role as the European capital (FIG. 9) and the various projects connected to the future regional train stations (FIG. 10). It appeared to us that public transport would be the force to re-activate urban intensity — therefore the agents of change would be the new train stations, for example, rather than the so-called ‘European institutions’. The establishment of a new transport network based on metropolitan polarities could stimulate urban interactions, integrating the contemporary dimension of polycentricism into the heart of a city that benefits from a unique position in the overall European rail network.

**LAYER 2: METROPOLITAN POLARITIES**

For many, a ‘mind-map’ of Brussels is limited to an identification of the so-called ‘polygon’. However, there are another 18 cities beyond the polygonal centre that comprise the Brussels-Capital region. Even public action has cultivated this misunderstanding, as all previous regional public space interventions have been dealing principally with the territory only of the polygon. Recalling the approach of the *skeleton as ecology of scale* (CHAPTER TWO), our intention was to rescale this restricted and false assumption in order to make the regional scale legible. Our main strategy proposed implementing – from the canal zone to the rest of the region — the conditions for a new network of public space structures that would connect new metropolitan polarities. Thus the new public space network would contribute to a polycentric city culture that it does not yet possess.
More specifically, a metropolitan polarity could be defined through six criteria, relating to the capacity of public space to attract and compel flow: (1) a polarity is a place where there is both higher density and (2) heterogeneous urban fabrics; (3) a polarity is a place that has a specific identity in relation to the city centre; (4) a polarity is easily accessible, and therefore (5) it should be located in the intersection of transport nodes; and finally (6) public space should be primarily dedicated to the comfort of pedestrians (FIG. 11). These criteria are components of the possible metropolitan identity of Brussels. This approach to public space includes the multi-functionality of landscape as presented in Chapter Two, which focused primarily on the detection of a territory of action wider than the inner-centre of the city.

INSTRUMENTS

In order to realise this further, fifteen public spaces or public space groups were identified in the Brussels-Capital region according to a careful analysis of the planned new metro stations, train stations and large-scale urban investments for the region. We perceived that most of the stations were at the intersection of various interest groups, from municipalities to private investors. It was therefore necessary to open up the planning of these places to an international urban design competition. The competition format could be monitored by the newly-appointed chief architect of the region and his team. This would enable the team to manage the quality of the process. From the fifteen sites, four were selected (FIG. 12) as priority projects to operate within the canal zone during the time-frame 2015-2020.

FIG. 11 — Eight criteria defining a metropolitan polarity

FIG. 12 — Distribution of public space groups

LAYER 3: LANDSCAPE FRAMEWORKS

Brussels’ geomorphology is defined by a system of valleys, which are flooded at numerous times each year, though the reasons are not well understood. During the course of our research in Brussels, we discovered an enigmatic map concerning the soil’s absorption capabilities (FIG.13). This discovery once again originated through seeking an understanding of a site’s geology (as discussed in Chapter One). Flatter and higher parts of the valleys, which today have no water-flow capacity, are priority intervention areas. The valleys clearly constitute risk-zones in the city, and floods are particularly prevalent near
FIG. 12 —
Priority urban renovation

FIG. 13 —
Infiltration zones (in grey)
Fig. 14 — Valleys system (blue) and Plateaux (pink)

Fig. 15 — Landscape frameworks: Senne Valley (1), Eastern Plateau (2), Voluwe Valley (3), Western Plateau (4)
the River Senne. This area consists of dense urban fabric and low-income populations and these neighbourhoods are also characterised by a high turnover rate of urban populations. The priority of public space interventions in these valleys must therefore be to directly address the issues of rainwater and storm surges.

Indeed, the ground-mapping quickly allowed us to conduct a first identification of the possible infiltration zones concentrated on the eastern plateau (Fig. 13) and of the specific system of valleys and their relationships to one another (Fig. 14). Together these two maps allowed us to differentiate four landscape units (two plateaus and two valleys) (Fig. 15). Due to the different ground conditions, each of these units was identified with a specific watershed regime as ecologies of resources. Within each watershed (catchment area), the establishment of a cohesive urban approach to water management would be promoted. Such an approach of ‘urban solidarity’ would reconfigure the system of water management, which is today overseen by a para-governmental organisation that lacks transparency in its decision-making. I believe that the proposed approach to urban water is a useful tool for territorial reconfiguration and allows us to define issues of relationship between porous and impermeable ground, between built and preserved ground, and most importantly between municipalities.

To consider a precedent, water management in the Netherlands is being constantly redefined. Considering the Delta-Metropole, which is an example of a project that responds to a political vision, the Dutch practice ZUS has proposed an even more transparent approach to spatial politics by calling for “new spatial concepts which provide answers to political questions and political concepts which offer perspectives for a new spatiality...this realisation can mean the beginning of a new public role for the architect.”

Van Boxel & Koreman 2007, p. 122

INSTRUMENTS

If watersheds define urban solidarity, how can I translate this notion into instruments? In continuity with the work carried out by the IBGE (the agency responsible for Brussels’ energy and environment) on water and vegetation networks and the preservation of peripheral farmland, four landscape frameworks have been proposed for the Brussels-Capital region. As an integral part of the urban project, the landscape frameworks will enable the definition of concrete actions to be implemented in various planning projects within the regional territory. The intent of the landscape framework is to ensure that landscape and hydrological concerns, which are usually disconnected issues, are taken simultaneously into account as part of any planning intervention in either public or private space. (These might include, for example, road projects, environmental redevelopments, construction or urbanisation, etc.)

PROJECT OUTCOMES

The three layers of our strategy propose the development of interventions that go beyond municipal borders. The regional spatial organisation is therefore not radio-centric but polycentric, while still acknowledging the respective contexts of each municipality.

Beyond the traditional approach of improving public space by upgrading local streets, our proposal challenges local customs by articulating two geographical spaces of intervention. On the one hand, metropolitan polarities accommodate urban densification that is based upon regional or national transport networks, necessitating the sharing of projects between the municipalities, the region, and private sector. On the other hand, the watershed approach is structured through different landscape frameworks and involves the principle of shared responsibility for action among the public and private actors on a site. In this way, the public space strategy quickly covers the notion of the public domain – or, in other words, of collective space.
This project questions what a landscape framework can be and how to implement it in a complex urban context with multiple actors. This landscape framework strategy was developed in parallel with the 2030 study regarding the public space of the region, and followed the invitation of the ADT to test this approach in a pilot project. This initiative makes allowances for new modes of dissemination of the values of the ‘public space manifesto’ at the operational scale. It proposes, through the definition of a landscape framework (which would combine the approaches of armature, ecology and score), the expansion of the public domain, in order to stimulate new dense urban forms and enable the different actors to share in a collective vision through the delivery of a strategic action plan.
THE STEWARD

When operating as a steward, I reinterpret the figure of the gardener by accompanying the emergence of the project over time. The site consists of three entities: a regional road, which is bordered on one side by a private body who wishes to carry out a show room development project in an area of industrial restructuring, and on the other side by a social housing landlord who wants to develop new forms of housing on the land. These projects are conducted in different time-scales and lack a holistic or wider vision.

Our project develops an armature by re-characterising the urban ground and its status, with the ambition of extending the grid of existing open space. Part of the private road is managed by the private sector but is extended and opens into the public domain. At the interior of this spatial armature as trace are several landscape areas, which define the conditions for the development of new urban programmes and densities, which we can see as hybrid ecologies. Each of these areas demonstrates its individual approach to rainwater management. The whole project is staged with a score defined through a system of open-space values and qualities expected to be produced by the three different clients.

PROJECT OUTCOMES

Our overall scheme operates by testing the capacities of different urban densifications. This approach, with regard to the ‘skeletons’ that we proposed, has demonstrated to the region the possibility of developing the site as a prototype of dense sustainable social housing programs. This recognition allowed the social housing organisation — with the support of the region — to raise the ambition and thus the quality of their project.

As a steward, the working methodology that I developed in this project was original. The main idea of the project was to propose a new type of contract with the client, to respond to the uncertainty and the different time-frames of the project. Its contract allows me to be engaged for a period of two years in order to continuously monitor its evolution. The monitoring of the Carte Blanche project in Barcelona evolved into a more formalised ‘warranty’ period. Under this warranty, all of our recommendations were first tested in the practice and discussed with the client. They were then transcribed into a suggested brief, and subsequently followed up and negotiated according to the development of each project. Finally, I participated in the organisation of architectural competitions for the pilot social housing project and followed the winner up until the project’s execution phase.
FIG. 2 — Schematic layering of the interventions
CONTEXT
The masterclass was conceived as a platform for reflection on the design of public space in Brussels. Such a platform enables encounters between practitioners and members of the public administrations that are currently acting in the production of public space. The uniqueness of the format is this cooperation between practitioners and public administrators. As I had again a carte blanche opportunity to conceptualise its contents, the three-day masterclass was understood as a way to test amongst professionals (who represented a community of peers) the findings of my approaches to score and to ‘tooling’ (CHAPTER THREE).

In particular, my proposition was framed around the notion of expanding the design of public space to support a reinvented relationship with the canal. We challenged the participants to design with a greater understanding of the processes of implementation (the construction of public space, its economy of means and its mediation), alongside a consideration of public space management as an asset. The result of the masterclass would be directed towards the production of a ‘toolbox’ for a design proposition.
THE PEDAGOGUE

Pyblik was initiated out of a partnership between the La Cambre and Sint-Lucas architecture schools’ research laboratories. Funded by various private practices, design firms and government bodies in the region, Pyblik relays findings and advice on the quality of public space in Brussels to the government. Incorporated as an integral part of our exchange and reflection sessions, Pyblik’s platform assigned us the responsibility of organising one of the three annual masterclasses that focus on the role of the canal in the city.

As part of an invitation to organise one of these masterclasses, my first role as a pedagogue was to disseminate the values extracted from the strategic study. The masterclass focused on the creation of new public spaces in relation to the canal. Commencing from three sites – a street, an intersection and a park – we simultaneously examined the role of nature in the city, and the role of spaces of mobility and urban planning in the re-invention of the city’s relationship with the canal. It allowed me, as a pedagogue, to pursue the creation of a learning community beyond the scope of RMIT. Conducted by and with professionals, including members of my own office, I saw this masterclass as an extension of the practice’s environment. In redefining ‘ways of doing’, two guests were invited to participate in the masterclass’ activities: Belinda Tato from the practice Ecosystema Urbano reflected on how the nature of creative practice can be used to develop social interfaces, while Dirk van Pijp from the practice De Urbanisten presented his Watersquare approach for the city of Rotterdam.

Over three days, three groups (each with four participants associating with a member of Taktyk) would develop a proposition following the process developed for the Living Coastline project (CHAPTER TWO). The workshop was based upon the site of its investigation, with all the design development happening through drawing interactions conducted during fieldwork and encounters with local partners. The final presentation took the form of a public walk conceived by each group, in which they presented the early conclusions of their findings.

PROJECT OUTCOMES

The first outcome of this experience incited me to explore the ways of switching between a strategic and a tactical approach to urbanism. Belinda Tato insisted particularly on the importance of immediacy in the development of a strategic approach: “Make something that touches people without making them wait decades for it to happen” is the main message with which she addressed the participants and which I retained. Dirk van Pijp expanded the space for action utilising notions of pragmatic and physical implementation. He introduced the participants to his own set of tools for urban water management, developed in the form of game-cards to be engaged during a participatory project aimed at the formulation of a schematic plan. Each card presents a typology of water management in public space and indicates rules and instruments to develop in order to implement it.

The second outcome is that these encounters with experienced practitioners exposed me to other forms of engagement. Tato uses immediate spatial artistic intervention to communicate a larger vision, whereas van Pijp exposes to his clients a diverse range of possibilities that could be relevant to any given context. This process is not intended to make an ‘à la carte’ design but to raise the ambition of a client and its community of users.

The third outcome is that, even if modest, the results of the three-day masterclass allowed us to prompt a group of participants coming from public administration or professional practice to understand design as an open process. Some participants had basic difficulties in the production of designs, so their contribution remained
mostly verbal. The public presentation was for many a challenging task to prepare so, despite some interesting aspects, that aspect was for the main part a failure. I realised I had overestimated the capacity of the participants to succeed in the mediating of the project to the public. One positive aspect was that each group developed a strategic position along with a specific ‘toolbox’. The first group developed a set of action-cards to tackle the territorial ‘taking-over’ of public space by particular groups and provided structure to a layered network of public space. The set of cards, recalling the Constellations project (CHAPTER TWO), allowed for actions that could be re-evaluated, modified or erased over time. The difference of this approach from that of the Constellations project is that each card was aimed to identify the existing multiple-level governance that had to be targeted in order to act on a site. In the group’s final public presentation, a constellation of sites was addressed. The aim of the group was to ask local users how they would improve an action-card by adding a level of refinement to the spatial proposition. As an example, one of the group’s members asked local teenagers to map the site using colour-coded strings, and to define the nature of the action to be undertaken regarding the existing fenced spaces around a central playground in the neighbourhood — whether to engage, to open, to keep them, etc. (FIG. 1). The second group identified the very specific and even poetic atmosphere of a derelict section of the canal that is today barely used despite being at the intersection of several structural roads. The group developed an ‘intervention matrix’ (FIG. 3) to playfully activate and stimulate interaction with the canal from a bridge. The matrix was organised by levels of interventions (activities that would be free, or would cost 5, 10 or 50 euros, up to larger investments and economic stimulators). The interesting aspect of the matrix is that it was a response to Tato’s immediate processes of awareness-raising, and was demonstrated through a series of small-scale actions and communicated to the public as a ‘canal party’ (FIG. 3). The third group designed a timetable for the gradual transformation and re-opening of a polluted site (FIG. 2). This site would function as a park under construction that would progressively support new urban functions depending on the level and the nature of the pollution encountered. Thus, they used earth deposits to create possible access to land that was polluted yet strategic. The implementation of different techniques of remediation or soil confinement also utilised the canal as an infrastructure for transport.

The final outcome is that, by including the newest collaborators of Taktyk as ‘assistants’ within the teams, I wished to enable them to test, share and disseminate in a concrete manner the ideas, values and expertise that the office had developed on public space within the platform.  

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<tr>
<th>Group 1</th>
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<th>Group 3</th>
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<td><strong>Strategy:</strong> to develop a public space network</td>
<td><strong>Strategy:</strong> transform a polluted industrial site into a decontamination park</td>
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<td><strong>Methods:</strong> identification of the existing typologies of borders to turn into interfaces</td>
<td><strong>Methods:</strong> activation of the canal zone promoting the interactions with water</td>
<td><strong>Methods:</strong> elaboration of a strategic phasing through sectional improvement of the ground conditions</td>
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<td><strong>Tactics of implementation:</strong> game cards</td>
<td><strong>Tactics of implementation:</strong> matrix of possibilities</td>
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### Identification of Pollution Typologies
- Change the edge of the site into public ground through short term actions
- Develop new ground conditions using the canal as infrastructure
- Start phytoremediation process
- Welcome rainwater (seasonal) to create new spaces in the park
- Develop new leisure program step by step
- Welcome new urban programs
- Create an observatory of the site transformations
- Incremental openings of the depolluted areas
- Program of site activations
- 2030-2050 Finalization of the cleaning process

### Strategy
- Transformer un site industriel pollué en un parc décontaminé
- Élaboration d'un phasage stratégique au travers d'amélioration en coupe des conditions du sol
- Calendrier d'événement et opérations
- POLLUTION
- METHODE
- MISE EN OEUVRE

### Tools
- DEPOLLLUTING
- Depollution
- MISE EN OEUVRE
- MISE EN OEUVRE
- MISE EN OEUVRE

### Project Title
PRESCRIPTION FOR ONE DEPOLLUTION PARK
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**FIG. 3 —** A matrix of possibilities to activate the canal
(source: Delphine Platteeuw and Nicolas Rome)
To conclude this fourth chapter in the continuity of my experiences as a strategist, a steward and a pedagogue, the project Our Parck! introduces a new form of public voice via the development of a curatorial practice that challenges existing models of garden festivals.

CONTEXT
This project, initiated by the IBGE, questions the methods of the production of green spaces in the city of Brussels through the curation of a festival of ephemeral installations that takes place every two years. In 2010, the festival examined the installation of inventive furniture in the city, while in 2012 the guest curator (Atelier le Balto + AWB) shifted the proposition towards the activation of derelict spaces through small-scale interventions, under the motto “garden vague”. The 2014 curator’s call has questioned the role of the vegetable garden and of urban farming, and has proposed the rejuvenation of a former railway yard into a new park-typology.
The bid introduced a new alliance with Petra Pferdmenges (Alive Architecture), a peer practice-based researcher and my partner in life. Her practice of social engagement has exposed me to the role of immediacy and tactical urbanism. In our proposal, the score of the garden festival event became that of the progressive infrastructuring of an ecological park, and a process of social engagement with a site. Thus we titled the project Our Parck!.

Our curatorial approach framed ideas, and expanded critical thinking through an invitational procedure for emerging and talented practices. Within this role as the curator, I am interested in questioning if ‘matters of concern’ (recalling Bruno Latour) could mobilise interested people. In other words, can we use the festival as a platform from which to enrich and spread our contribution to the public space manifesto in Brussels, which calls for the development of an ecosystemic approach? (SEE THE REFLECTIONS AT THE END OF THIS CHAPTER.) This expands on Elizabeth Meyer’s argument (CHAPTER TWO):

“Designed landscapes need to be constructed human experiences as much as ecosystems. They need to move citizens to action.”
Meyer 2008, p. 21

Our aim is to create and share those values through the organisation of an event.
FIG. 2 — Calendar of events and mediations beyond the site and the event
PROJECT OUTCOMES

We propose using the festival as a pioneer act in the prefiguring of a planned ecological public park, thus utilising a public event to recontest a derelict domain that has become privately appropriated through being ignored by the city. The strategic dimension of the park is highlighted through its being developed by both a private investor and a public body, and thus the project is one of collaboration. Our proposition therefore goes beyond the scope of traditional garden festivals in Brussels, which promote only designed objects or ephemeral interventions, and instead aims to construct through a social process the skeleton as ecologies of resources.

Within a context of widespread financial crisis, we have based our interpretation of the 2014 topic on a cross-reading of the vegetable garden idea from the point of view of its use and development of resources – for example, promoting systems of exchange (such as micro-urban economies). We are interested in the vegetable garden’s character being the intelligent cultivation of the ground, through rediscovering the urban wild-flora and pioneer vegetation, as well as the substrates and the presence of water. In the end, our proposal has investigated ecologies of water, waste, food, energy and habitat. For instance, we have proposed the shed, the shelter, and the observatory as ways of perceiving and perpetuating the co-existence of humans and animals on the chosen sites, as well as the biodiversity of the city. Ultimately, we have conceived of the vegetable garden as a nourishing space, and the cooking-table as its hub: a place for sharing and exchanging (words, acts, etc.).

Once again, the practice of fieldwork has strengthened our position in this proposal. Looking more closely at Brussels, the culture of the vegetable garden exists but not necessarily equally across the territory. Many gardening and cultivation practices thrive in peripheral zones: for example, in neglected areas that sometimes have polluted soils, and also in the city’s flood zones, which contain many toxins.

The practice of vegetable gardening is today forced into those peripheral areas that are not conducive to healthy and ecological farming practices. We deduced that a festival was a possible way of making better practices visible and available to a wider public.

As a curator, this inquiry has developed my interest in supporting a social mediation process using the catalysing effect of immediacy advocated by Tato (see Project P1c). To strengthen both our position and our impact, we decided to question the mode of the event’s production. Public money is all too often being spent on complex processes involving a myriad of consultation and implementation strategies, so we wished to use about 40% of the client’s budget to generate social engagement through pioneer projects beyond the site and beyond the event. These were incorporated into a calendar of events based around culinary gatherings and experiences. Cooking the food grown in the garden would enable the local trans-cultural population to contribute to the festival, making the garden a social and productive space.

This project is primarily an opportunity for me to develop and improve, with greater awareness, my emerging interest in the social dimension of public space and tactical operations. The new alliance with Petra Pferdmenges questions the public role of the architect and her influence and critical practice continue to nourish, in various ways, my interest in the open-city agenda as defended by Kees Christiaanse.
I introduced the PhD by describing the pruning of a rose as being a model for action. Over the course of the PhD, a growing awareness and interest grew regarding the transmission of the knowledge embedded in this act. Acting not only as a gardener and as a conductor/orchestrator but also as an enabler, the projects of this chapter demonstrate the value of transferability and exchange, which have been gained from the research on the skeleton as armature, as ecology and as score.

Without being necessarily conscious of it, the platform has exceeded conventional modes of practice through being a space for reflection and action, whilst allowing me to identify a local community of peer-practitioners. I wish to retrace this venture, exposing some of the steps of my rising awareness from ‘first-findings’ to discovered methods. As such, these final paragraphs are not concluding but rather are re-opening the PhD.

At the initiative of Taktyk collaborator Jennifer Buyck, who had already tested this mode of exchange as part of her participation in the consultation for the Grand Paris project, we proposed and developed further the idea of a workshop-meeting among experts, local associations, practitioners and academics. Since the public authorities provided no single framework for discussions, I used this opportunity to create a platform (which we called Studio Brussels) for reflections and their dissemination.

**PLATFORM MOBILIZES PAST KNOWLEDGE**

The methodology of this PhD has introduced me to the value and importance of bringing to light the nature of my intuitions, which are built firstly upon geographical journeys and the crossing of different cities. It is clear that recalling each of these situations nourishes my practice and informs my choices and my ‘spatial intelligence’ as a designer (Van Schaik, 2008). These journeys and cities have composed a kind of tacit learning environment without actually announcing themselves as such. Through the activities of the platform (Studio Brussels) developing simultaneously with the PhD process, I was able to surface all these relationships.
I discovered that the layered strategy of the public space skeleton for the region relied strongly on the nature of my past experiences and projects. My understanding and direct experience of metropolitan centralities is very different for Barcelona and Melbourne, in contrast with the approach to water as a landscape framework that was introduced to me in the Netherlands. These three locations helped me to clarify and identify the values that I placed upon the public space we designed and the strategies that I formulated within the specific context of the Brussels commission. To demonstrate this point, I will explain how the concepts of ‘metropolitan centralities’ and ‘watershed solidarity’ came to be.

Melbourne’s Federation Square, initiated in 1998, was the creation of an intense, iconicographic urban public space, programmed near a train station and a river. Federation Square is a demonstration of the rivalry between the cities of Melbourne and Sydney, a political agenda expressed physically in the landscape. It was my first working experience, as a member of the office Karres en Brands, on a scale of such size and complexity. This project, expressed in the form of a section defining a topography, which connects the city centre with its river, accommodated various programmatic layers. Similarly, in Brussels, our study questioned the possibility of introducing another scale, one that is able to realise a metropolitan ambition in the same way. In 2007, an initial approach was led by my association with the office uapS (urbanism, architecture, projects) for the Delta project in one of Brussels’ thirteen strategic zones. We proposed an urban intensity consisting of metropolitan programs connected by a large-scale deck that would connect this entrance to the city with the existing university campus.

My experience in Rotterdam from 2006-2008 exposed me to the culture of water management, which has been changing at a fundamental and a national level. The general motto “room for water” is partly illustrated in urban space by the Waterplan Project developed by De Urbanisten. De Urbanisten’s project proposes restructuring the city’s public spaces by making flooding visible in the city within each neighbourhood. It tries to make the necessity for collective responsibility for hydraulic security readable and tangible in each district area. Currently, the city of Brussels is investing millions of euros in the redesign of their hydraulic system without considering alternative strategies that will be sustainable over time.

The Rotterdam project presents a critical approach to the dominant engineering approach found in Brussels. This case study has also partly informed my teaching in Versailles, in the form of a studio on the evolution of the watershed approach in the Parisian metropolis. In addition to this experience, more recent work conducted for RMIT University on the evolution of the city province of Hanoi in Vietnam has engaged with the strategic layering of three infrastructures (water, bus and rail systems). The Hanoi studio is a continuation of the work on water urbanism initiated by Kelly Shannon (Shannon, 2008), which I considered relevant to develop at the scale of the Brussels region.

Living in Barcelona allowed me to understand that the strategy of Catalan public space was originally an act of emancipation from the central government in Madrid. The emergence of public space was an assertion of Catalan identity. In rejecting the masterplan approach and reacting to the vecinos (neighbourhoods) movement, Oriol Bohigas’ strategy was to create an ambitious urban project through the aggregation of various smaller projects. Similarly rejecting the ‘Bruxellisation’ process (the modernist development of the city) in the early 1960s, a strong neighbourhoods movement gave birth to intense processes of participation in the making of the city, including of its public spaces, which became a unique aspect of the European capital.

If a parallel with the Barcelona example can be made, the major difference between the two cases is that Barcelona’s project with its multiple centres is part of an inclusive global project, in which operations are developed on multiple scales, while the approach of Brussels reveals local improvements in individual cases without a shared vision. Thus, despite some successful operations for specific projects, the outcome of
the Brussels approach produces neither overall clarity, nor cohesion. Furthermore, the quality and diversity of public space in the region is very low, contrary to Barcelona, and fails to encourage the reinvention of urban form.

Melbourne, Rotterdam and Barcelona represent three territorial examples that all demonstrate good practice. They demonstrate an ambition that is strategic at the scale of the city whilst also being operative at the local scale. Learning through experiencing these precedents, I became very interested in identifying whether similar strategies could be developed in Brussels and adjusted to the specific conditions in the Belgian capital.

For instance, looking at our own projects as a means of exchange with our client, in which we discuss the capacity of a public space to stimulate new urban forms in Brussels, we extracted two references. In the context of the restructuring of one of the largest social housing projects in Pantin, France, our strategy was based on various degrees of differentiated interventions developed over a 15-year period. Each of the social housing spaces supports the emergence of new urban forms. Similarly, the Hortus Ludi project in Lille, France, proposes the creation of a new public space, accompanying the densification of the existing urban fabric to allow the creation of new types of social housing.

For the Brussels strategy, twenty sites were evaluated using three criteria: geography and water management (Rotterdam), mobility and nodes (Melbourne), and vibrant social practices (Barcelona). The results were registered in an evaluation matrix (FIG. 13) that revealed an important finding: despite major investments in the streetscapes of the region, no significant improvements of public space have been registered in regards to the above-mentioned criteria. This was the first time that such a conclusion was able to be drawn and shared directly with the client, synthesised with the site descriptions. Thus, our strategy aimed to direct the investment in infrastructure towards the creation of a mobility network prioritising urban intensification (FIGS 5 & 10) along a geographical approach.

The image of Brussels is, for us, built upon the form of a ‘mosaic-city’ punctuated by public spaces at the scale of each municipality. In their respective works for the Brussels 2040 vision, Bernardo Secchi and Kees Christiaanse both recognise this assemblage as a special feature. Secchi’s work identifies Brussels as an ensemble of metropolitan villages. This description captures well the historical development of the city and its region. Furthermore, our fieldwork reveals Brussels to be a cosmopolitan city with an extraordinary intensity in its use of public space. Christiaanse recognises this feature in his Open City approach to Brussels. Critically reviewing the recent development of the conceptualisation of urban forms (FIGS 14–17), he questions how to go beyond the concept of villages, which tend to produce a system of enclaves, towards the concept of a metropolitan network made up of topologies of complementary centralities. These topologies are actually urban centralities at the metropolitan scale: such places were emphasised in our approach.

Beyond learning from precedents, I became interested in the approach of the metropolitan network that is advocated by Christiaanse. For instance, the interpretation of the ‘complementary centralities’ in the public space skeleton of Brussels was, in our case, first derived from the mapping of the existing metropolitan amenities.

**PLATFORM GENERATES REFLECTIONS ON THE CITY**

Looking for a specific agenda for the public space of Brussels, we found that, unlike other European cities, Brussels has no clear spatial framework. The nature of our commission rapidly exceeded the simple question of public space to become a component of a broader reflection on the city.
superimposed with the projected new metro and regional train stations. Despite using quite different methods, the effect that is researched for the public space networks in Brussels actually draws a correspondence with the project Constellations (CHAPTER THREE), which I did not acknowledge at the time of the project. What is at stake in both projects is in fact the construction of dynamic interdependent relationships between sites.

**PLATFORM STIMULATES STRATEGIC ALLIANCES AND PUBLIC VOICE**

The Brussels 2040 study questions the future of the metropolis, aiming to capture a conceptual image of the city and to identify its strategic potentials looking at a broader agenda (economics, demography, transport, representation). Our approach, on the other hand, had to be more proactive by trying to overcome the fact that the majority of public space in Brussels is conceived either at the scale of towns, or in the form of private initiatives. The city is not read as a region but as an assembly of 19 municipalities. Territorial governance is therefore reflected directly in the physical space, with each municipality centred upon a church, a square, and a town hall. In this context, in order to maximise the impact of our strategy of reassessing the reading of a regional scale, we looked at how to improve the production of public space by redefining the role and the instruments of the existing organisations within the region (for example, between the chief architect, and governing bodies such as the IBGE and the ADT) and thus initiating several alliances to support our findings.

We firstly emphasised the connection of our study with other regional studies being conducted simultaneously. Our studies examined the challenge of densification in Brussels. In order to tackle the social and spatial fragmentation found throughout public space, our common proposals resulted in the structuring of densification patterns along axes and urban polarities (FIGS 5 & 10) while responding to the recurring flooding of the city (FIGS 13-15).

Second, our response defines a new way of intervening. Moving away from the existing approach to urbanism (either top-down or bottom-up), we sought to share our inter-scalar instruments with the existing organisations in the region. Among them, the IBGE and the ADT were interested in the approach of landscape framework as a possible new instrument.

In the development of the platform Studio Brussels I was looking for similar new modes of practice, and discovered the work of the Dutch office ZUS, who were contributing to landscape architecture’s expansion towards a multifaceted practice of campaigning for the recapturing of the collective dimensions of public space. Working “against mediocrity”, ZUS advocates for political action in creating the city:

“How can the suffocating political tide be turned? And how can the architect recover a meaningful role in the production of space? Why do we turn a blind eye to the fact that the public domain is put up for sale with no kind of vision at all?”

Van Boeckel & Koreman 2007, p. 114

The difference between ZUS’s approach and ours is that, in the Netherlands, several institutional frameworks supported and published their investigations. In our case the platform was self-funded, thus claiming independence from any organisation. Looking at their inspiring body of early work, which was based on Bruno Latour’s enquiries, our main question soon became, to quote Latour: “How do we make things public?” In other words, how do we make our enquiry visible to and shared by a broader public? Latour’s approach questions the forms of democratic representation and introduces an alternative: the notion of care and the matter of concern. He writes:

“We might be more connected to each other by our worries, our matter of concern, the issue we care for, than by any other set of values, opinions, attitudes or principles…”

Latour 2005, p. 14
With this understanding, and following the feedback of the first Studio Brussels, we thought that the contribution we developed for the public space of the city could be shared more broadly.

**MANIFESTO FOR PUBLIC SPACES**

In this context, understanding the limitations of our self-funded and relatively ‘amateur’ approach with regards to dissemination, I approached Pyblik to explore possible partnerships.

In 2011, pursuing their initial reflections on the subject of public space, the Pyblik platform decided to write a manifesto on public space that aimed to convince the government of five strategic points about intention and action in public space. Within the framework of this approach, part of the community of experts and practitioners active in Brussels has been invited to contribute to the definition of the declaration. Jennifer Buyck was one of those experts for Taktyk. The manifesto is as follows:

1. Public space is an essential city structure
2. Public space must support multifunctional uses
3. Public space is a component and connector of urban ecosystems
4. Public space contributes to the metropolitan definition of polarities at multiples scales
5. Public spaces must be developed and monitored alongside active public participation

Initially developed within an unstable political context, the project’s space of intervention was confirmed through two fields of action in order to become operative. Firstly, the structuring of the space was developed strategically, relying on the planned infrastructure of mobility as a main vector for change, so as to guarantee a certain intensity of use in the public space. If we can agree on all the points that we advocated — especially on the promotion of an ecosystemic and integrative vision for the public space that can be developed across multiple scales (POINTS 3 AND 4) — then this is where our main contribution would lie. Secondly, becoming better at recognising the existing logic of actors who could disseminate the findings of the platform made our work more operational in the short term. Our contribution to the public space manifesto was a visible part of this approach. The findings from the score approach presented in Chapter Three, the encounter with Belinda Tato at the Pyblik masterclass (PROJECT P1C), and especially the relationship with Alive Architecture (PROJECT P1D), have been instrumental in this realisation.

This PhD has evolved simultaneously with the founding of the Taktyk practice in Brussels. We have used Brussels as a testing ground — as a ‘project-of-projects’ — building a flexible and re-workable strategic vision together with numerous pilot projects that have tested new design methodologies and actor-alliances. I have engaged with a series of events, which have stimulated my reflection and knowledge and re-applied them within both the spatial and the operative frameworks. In this sense, my approach to this city has been the breeding-ground for numerous explorations from which I have tried to draw out the main ideas. What lessons does this ‘project-of-projects’ bring about?

This enquiry has extended the scope of design towards the reframing of design briefs, the definition of values, the approach of ‘tooling’, the stimulation of alliances and the discovery of the importance of mediation and advocacy in design.
This diagram represents the impact of the design process upon the evolution of the practice, and defines the multiple roles at stake to iteratively identify a strategic approach for the public space of the Brussels region. The strategist defines both a spatial vision for the long term and operational spaces.

The steward reinterprets the figure of the gardener which accompanies the emergence of the project in time. The pedagogue disseminates values while testing design concepts, methods and instruments.

The curator frames ideas, expanding critical thinking through an invitational procedure for emerging and talented practices. This project opens up an expended field of expertise.
SPATIAL FRAMEWORKS

LAYERED STRATEGIES

THE STRATEGIST

THE CURATOR

THE PEDIAGOGUE

THE STEWARD

NEW PARTNERSHIPS

PILOT PROJECT

Quality teams
Local scale

New actors

Competition brief

INTENSIFY METROPOLITAN NODES

URBAN MOBILITY SPINES

LANDSCAPE STRUCTURE PLAN

CHAPTER 4 PLATFORM

REFLECTIONS

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Consequently, the identification and dissemination of a reference system for thinking and acting in public space is an area of design enquiry that was previously unexplored. The development of the platform Studio Brussels has been directly connected to the PhD process through the mobilisation of a raised consciousness about the nature of my design investigations, resulting in a diversification of the positions in which I have been acting as an enabler. As such, the role of the steward is a transposition of the role of monitoring undertaken by the gardener within a more complex urban context. The pedagogue emphasises the translation and dissemination of ideas through design studios dedicated to professionals, recalling the Living Coastline approach (CHAPTER TWO).

In particular, the roles of the strategist and the curator draw upon the findings of previous practice-based PhDs at RMIT. The strategist is primarily making choices that define where and how to act in order to enhance the public space of a region. The development of the platform’s search for extended alliances recalls Mel Dodd’s posture of the ‘double agent’, who “infiltrates territories or organisations foreign to one’s own in order to collect intelligence, while actually serving the needs of that foreign organisation.”

Hyde 2012, p. 74

The curator raises questions to contest current modes of thinking and practice by using a more conscious social agenda and a new scale of intervention. SueAnne Ware and Sand Helsel coined the term ‘curator’ to advocate for an ‘expanded field’ of practice. Ware discovered that her focus is on expanding design towards the construction of processes of social engagement (van Schaik & Johnson 2011, pp. 80–85). In her final thesis, Helsel concluded that her design operations critically question the logic of the masterplan, instead advocating operating across scales:

“...one of my major conclusions was that the architectural project exists between 1:1 and 1:100,000.”

van Schaik & Johnson 2011, pp. 110-115

This project has allowed both Taktyk as an office and me as an individual to be recognised as local experts on the topic of landscape and public space. This ability to be grounded within the design culture of a city is, in my view, a dual-condition. Firstly, in the context of a significantly increasing population, ‘making the city’ has once again become a current topic. The approach to strategic design that I propose is relatively new and unknown in Brussels. Secondly, the practice presents a landscape profile in a country lacking training in this discipline, and offers both local knowledge and international exposure.

The impact of this evolution in practice is significant. Using design as a political act in the sense of Latour, who sees politics as the art of creating a “matter of concern”, I realised that I seek to trigger general public interest in the challenging of public spaces. As such, the public role of the practice has emerged as one of creating contexts in which others may contribute, adapt and expand strategies for public spaces and assume the role of an enabler. The chapter Platform has therefore attempted to specifically identify the various ways of fulfilling this new role.
Bibliography


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CONCLUSION
To conclude the PhD, I will map the main steps of its development and contextualise its findings. The initial question that I posed was concerned with the way that I, as a landscape architect, could act in order to guide the transformations of landscape. Recalling a conversation that I had with Leon van Schaik halfway through the PhD process reminded me that my practice operates in a space between the observation of a site and the anticipation of its evolution. The outcome of my research is that, to respond to this initial scope, both design propositions and modes of practice needed to be investigated, reflected upon, and understood simultaneously. The journey of the research is summarised and captured in three kinds of reflective movements: looking back to previous projects, looking at the impacts of reflective practice upon projects undertaken during the PhD, and looking towards the future directions of the practice—which are, by definition, open-ended.

Looking back at Robust Landscapes

Initially, my preoccupation was with issues about the dynamic representations of the transformations of landscape or land-scripts. Looking back at previous projects, I understood that the dynamic nature of landscape that I was interested in was, in fact, one of the elements of its performative dimension. Looking at the nature of this finding, I understood that my initial interest in land-scripting had little to do with representation techniques but with the identification of forces that could be instrumentalised in order to design landscapes. In our early projects at Taktyk, for instance, we were particularly interested in understanding the consequences of climate change in different conditions. We were dealing principally with the issue of too much or too little water. This attitude distinguishes itself from current emphases in the emerging field of landscape urbanism, whose parametric approaches and ‘fetishisation’ of process remain for me mainly un-operational. To me, the landscape urbanists’ pragmatic data processing may help to visualise complexities, but it often produces the illusion of control over indetermi-
nate contexts. Such work fails to engage with hierarchical processes and to determine creatively where a designer selects *what* matters in the production of a design proposition, as well as *why* and *how* successfully to implement it. It is important to state that this PhD has not aimed to respond to an academic conversation on landscape urbanism. Landscape urbanism has its origins largely in the US and is entirely valid in that context, where the fields of landscape architecture and planning have previously been separated. However, this is not the case in Europe. My ambition is instead to respond to the strong European tradition, using the body of my own work that has been developed over more than ten years in the Netherlands, France, Germany, Spain and Belgium. I have wanted to determine the contribution that I am making to operative approaches for the design of robust landscapes.

In the first period of the PhD I therefore tried to understand *what* exactly interests me in the robustness of landscape and what I mean by this term. Realising that my some of my spatial intelligence has been shaped by places I have inhabited in the past, an initial outcome of the PhD was that it allowed me to draw connections with my previous living experiences. In the introduction I described this specifically with regard to practicing in the Netherlands and in India, where landscape is primarily productive and infrastructural. In both places, ‘robustness’ implies a landscape that has an intensive use and is resourceful. Though examining what was really happening in my early projects, I realised that the landscapes that I designed there took the form of large-scale geomorphologies that had tactile dimensions. They responded to a desire to give to the landscape an infrastructural bias and the condition of a powerful spatial figure (*Armature, Chapter One*) and my projects therefore took a holistic approach to the design of landscapes (*Ecology, Chapter Two*). In this early phase of the research I traced my fascination for the design of porous boundaries and the experiential nature of landscape, which I did not quite fully understand until I began to discuss it in this Research Catalogue, through the topic of the ‘hybrid’. For me, the hybrid covers issues of spatial connectivity, transcending disciplinary borders, and thus embodying human relationships with nature.

### LOOKING IN: THE DESIGN RESEARCH IMPACTS UPON THE CURRENT PRACTICE

Two significant moments in the PhD occurred during my fourth Practice Research Symposium presentation (PRS 4), in which I utilised the analogy of rose-pruning to encapsulate the way I work; and during PRS 5 and PRS 6, in which I discussed my shifting role as a designer. After coming to define *what* my preoccupations were, I could then approach *how* and *why* I am designing landscape, which are the main findings of this PhD.

Using the analogy of rose-pruning to communicate my practice, I not only connect my prior education of landscape gardening but I also introduce the notion of a *regime of care*. The power of this analogy lies in its multiple meanings:

On the one side, it addresses the position of a gardener, which was my initial role within the duo-practice Taktyk. My partner Sébastien Penfornis has been following the same model of design research and reflection and has framed his position as being that of a ‘*bricoleur*’. The research process has thus made areas of convergence visible, as we are then motivated to investigate the design of hybrid landscape through the approach of dynamic *assemblage* in our own way. The PhD has also allowed me to surface the connections that I have with a contemporary French approach to landscape architecture. Firstly, I have realised that, within a European context, the shaping of living systems and the exploration of the textural dimensions of landscapes are explored differently between French landscape architects. Among those who have influenced me and my approach to design are Michel Desvigne, Catherine Mosbach and Gilles Clément. Secondly, I have recognised that the ENSP School in Versailles was my first
encounter with a landscape-driven approach to urbanism and with the position of the gardener. This is where I have been taught and where I currently teach, and even its physical location is a fragment of a larger landscape structure — indeed a masterpiece of design, drawn by André le Nôtre.

On the other side, in this analogy of the rose-pruning I address the shaping of a plant. This shaping became a strong metaphor in the notion of ‘skeleton’. Initially, I qualified the idea of the skeleton in the Carte Blanche project in Barcelona through the notion of ‘permanency’: the idea that, as a living structure that a human can shape, the skeleton has a life, its robustness being embedded in a process of formation that implies care. This moment marked a shift, for my attention moved from the definition of spatial and relational structuring to the design of implementation processes. In PRS 5, I utilised the Constellations project to test this finding. I discussed with the panel the outcome of a competition entry in which I realised that my inquiry had developed towards the design of open frameworks, so as to orchestrate the transformation of place. The experience of place is determined by a non-linear, elastic understanding of time. The design research thus questioned, more importantly, how to define the level of intervention needed to effect the transformations of a landscape (SCORE, CHAPTER THREE).

Introducing the start of the Brussels project for the public space structure of the region, I stated that my role as a designer is shifting from conducting nature to curating change. This refers to my initial understanding that the PhD was creating and stimulating a learning environment for not only understanding the nature of my previous practice but for realising how the PhD was pushing my current practice forwards in unexpected directions. Using the design research model to foster a design culture in Brussels, the PhD soon stimulated the establishment of Taktyk as an investigation office in this city. Within Brussels, I am generating the notion of the platform, which aims to trigger agendas for the creation of public space in the city. At this stage, the PhD’s progress merged with the evolution of the practice (PLATFORM, CHAPTER FOUR). Initially, Taktyk developed as a pair of designers making models in our living rooms; the practice then became professionalised, gaining national and international interest, as well as commissions and awards. This recognition allowed me to share my findings with a growing community of other practitioners and academics through lectures and publications, expanding upon critical feedback from beyond the RMIT community of researchers in Europe and Australia. This moment of the PhD marked the emergence of the public voice of the office, both internationally and locally. Presenting the implementation of the Manifesto for the Public Space of Brussels, Marcelo Stamm pointed at the possible emergence of a new field of competency within my practice. In particular, he was interested in questioning how I develop value-systems with others and trust among them. This raised an important and stimulating discussion in regard to my design position as an impresario, advisor or curator. In fact, the last evolution of the research corresponded with the development of an extended field of expertise, as I was appointed by the French state as a National Landscape Advisor to one of its coastal regions. Another influential experience has been my involvement with the Louvre Lens (Euralens) consortium, which aims to foster the future cultural and natural resources of the Lens region after the collapse of its mining industry. These experiences have exposed me to a better understanding of the governance of territorial strategies and have expanded my learning environment into the knowledge spaces of consultancies. Through this, I have understood that the role of social mediation — acting as an enabler — is what I was actually now better able to capture. Exposed to a certain number of carte blanche approaches or vague briefs, the PhD made visible that an important activity in my practice is to actively engage in reframing landscape agendas through making briefs for strategies, consultancies, workshops and events. Thus, the conclusion of the last chapter distinguishes not one but four attitudes for action and for design agency (PLATFORM, CHAPTER FOUR).
LOOKING FORWARD

Cedric Price demanded to know why designers act: “If technology is the answer, what is the question?” This PhD has been developed through an increased recognition of the status of the landscape architect in Europe. This recognition does not conceal the fact that the discipline is still young and lacks a certain criticality. One of my principal motivations in pursuing this PhD has been to explore possible answers to the provocative question raised by Price and to contribute to the visibility of my discipline.

THE TACTICS OF TAKTYK

Throughout the course of the PhD, the practice I share with Sébastien Penfornis has evolved from a duo office to a bipolar structure based in two locations. Following this evolution we decided to use the PhD to privilege the careful examination of our own respective practices, aiming to understand how specifically we act, between the definition of landscape strategy and the implementation of design.

Sébastien Penfornis is investigating the position of a ‘bricoleur’ who develops a specific set of design techniques and attitudes towards the design of landscape. He acknowledges specifically the importance of collage and the role of ‘game playing’ in fostering creativity within the team and in engaging with clients.

The research on the skeleton has enabled me to define several findings and has impacted significantly the establishment of my practice in Brussels. The first finding is the identification of my own contribution to the office and to the discipline of landscape architecture: the tactics of taktyk. In the middle of the research process tacit knowledge of the gardener has surfaced. It was the moment when I discovered that the successive definitions of the skeleton as armature, ecology, score and platform that I use in the structuring of landscape represent different facets of regime of care that are specific to my approach.

I acknowledged the role of my spatial intelligence, between India, France and the Netherlands in informing this approach to landscape.

The second finding is that understanding these four approaches or ‘lenses’ has allowed me to critically review my own projects as well as to determine a system of values that I now associate with the production of landscapes. I have discovered, for example, that in the Superdune project (CHAPTER ONE), a project that I cherished, the design was very poorly scored because it lacked a clear approach to its instrumental aspects; whereas the Brussels ‘project-of-projects’ is more valuable because of its capacity to be not only operative but also to disseminate values.

The third finding concerns the understanding that with the establishment of the office in Brussels, through being a landscape architect and gaining a public voice, my practice became a cultural and social practice. I was not only an observer or translator of cultural signs through the design of landscape but a cultural agent as well, who would operate in different regimes. As a maker and a contributor to a city’s culture of public space (as in the platform Studio Brussels) I understood more deeply the social implications of the propositions with which I am involved. As an enabler – the strategist, the steward, the pedagogue and the curator – I have become more sensitive to and critical of the value of design. During this process, I became increasingly interested in other forms of practice that are not only concerned with a compositional integrity and with the construction of a personal œuvre, but whose designers develop a clear strategic and social stance in their landscape propositions. The PhD has opened my practice up to much broader fields of interest. My PhD can be summed up as an intensive process of expanding awareness, which ultimately stimulates a robust practice.