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Architecture and the Built environment

#09
2018




# Transformation in Composition

## Ecdysis of Landscape Architecture through the Brownfield Park Project 1975-2015

René van der Velde

# Transformation in Composition

## Ecdysis of Landscape Architecture through the Brownfield Park Project 1975-2015

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# Transformation in Composition

## Ecdysis of Landscape Architecture through the Brownfield Park Project 1975-2015

Dissertation

for the purpose of obtaining the degree of doctor
at Delft University of Technology,
by the authority of the Rector Magnificus Prof. dr. ir. T.H.J.J. van der Hagen,
chair of the Board of Doctorates,
to be defended publicly on
Tuesday 12, June 2018 at 15.00 o'clock

By

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Master of Landscape Architecture, Amsterdam University of the Arts
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TOC

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For Marie-Laure

For Finn & Imme

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# Foreword

'How Do You Landscape' was the somewhat whimsical title given to a lecture series organized by the chair of landscape architecture at the TU Delft in 2010, to mark the launch of the master track in landscape architecture at the faculty of architecture. The concept was simple: two speakers were invited to present their vision of design, planning or research praxis in which the idiom of landscape resonated in some way or other. The often-contrary positions presented led to lively debates between speakers, students and staff. The formula proved a success, was extended for another term, then another, and finally became a fixture in the curriculum. In 2018 we prepare to welcome our 60th speaker to take the 'How Do You Landscape' floor in Delft.

The fact that each speaker delivered a different account of landscape illustrates the rapidly expanded agency of landscape in the design disciplines since the 1980s. The discourse progressively ripened with the conceptual and operative scope of landscape, spurred on by the metamorphosis of cities and territories and paradigm shifts in approaches to spatial planning and design. Much of these shifts were a response to the shortcomings of Modernist planning, but they also took place as part of broader societal introspection at the end of the twentieth century, a mood which catalysed fundamental questionings of where we have come from and where we are heading to as (urban) societies in the third millennium.

My professional and academic career ran roughly parallel with this 'recovery' of landscape. Working in praxis in the Netherlands in the 1990s, I was involved in a range of new projects that drew on the conceptual and operative agency of landscape in different ways. Landscape – and its design protagonist landscape architecture – seemed increasingly drawn (and bidden) to address the emerging 'wicked problems' of the 21st century city. In the maelstrom of this work I began to search for a consolidation and deepening of my own way of working. How exactly do we as landscape architects 'know and do', and how does this differ and complement the work of architects, urbanists and environmental designers? On this quest, I came across different frameworks to describe the 'ways of landscape architecture', one of them developed by the chair of landscape architecture at the Delft University of Technology. This group built a theoretical and methodological framework around the idiom of composition, building on the body of knowledge developed in architecture around this topic from the 1980s onwards. I got the chance to examine and work with the Delft method more closely when I joined the group in 2007 to help set up a master track in landscape architecture, and was encouraged by its breadth and theoretical underpinning. This method however, had not yet engaged directly with the recent repertoire of landscape design praxis, focussing as it did on the analysis of classical gardens. I set myself the task to review this method in relation to contemporary designed landscapes from the 'recovery of landscape' period, drawing on my experience from professional practise. This review was also initiated in the spirit of scientific rigour - the necessary testing and verification of existing theory - and in response to reservations about some aspects of the framework by other members of the group.

At the same time, I was motivated to contribute something a little more tangible to the design community and society at large. I looked for something that, in the slipstream of the academic review of the Delft method, might also 'bear fruit' in broader areas of knowledge and praxis. The combination of these two goals resulted in a focus on the municipal park, a favourite place of study and inspiration for me (and many students of landscape design like me I'm sure). These designed landscapes can be found in almost every city around the globe, and embody much of the myriad and complex dimensions of landscape architecture. They are fascinating mixes of nature and culture and are vital arenas

of urbanity and public life. As such, expanding on the saying 'you can tell the civility of a city by its cemeteries', one might also 'tell the story of a city through its parks'. I was also interested in how parks might not only reveal what cities were about, but how they (we) might help shape them. Urban parks are integral to the formal and spatial organization of cities, to their functioning and programming, to their social and cultural identity and to their ecological value. The city park is thus not only a fascinating place for reflection on what landscape design is about, they also reveal clues about what landscape architecture can offer contemporary urban challenges.

I began collecting 'specimen' parks from different cities and historical periods, much like a taxonomist might collect rare plants. In the process of gathering and studying these complex creations, I came across a new 'species': the brownfield park (public open spaces realized on derelict industrial sites). From the outset, these projects spelt out in bold letters how the spatiality, materiality and temporality of landscape differed from other realms of spatial design. Research on these parks had begun appearing since the early 1990s, some of which proposed paradigmatic shifts in thinking about design and planning from the perspective of landscape. It became clear to me that a revision of the Delft method might best proceed through the lens of this body of work.

What also drew me to them was their capacity to reveal how forces such as globalisation and deindustrialization were shaping the urban realm in the post-war period, and how the contemporary city might be otherwise understood and conceptualized using lesson learnt from these 'phoenixes' rising from the ashes of de-industrialization. I soon realised too, that the paradox of creating green spaces from these aberrant sites prompted a fundamental review of abiding ideas of what nature, landscape and cities were about. The idea of nature as something 'other' (than us), landscape as something 'out there', and the city as 'artifact', were often turned on their head by these schemes. In doing so, the brownfield park project promoted landscape architecture as a critical new voice in societal discussions on these topics, a role which was long overdue in our current geologic age, first labelled as 'the Anthropocene' by Crutzen (2002).[1] More practically, these projects were also acclaimed as agents in revitalizing neighbourhoods environmentally, socially and economically, implying a new instrumentality of the urban park for future cities. This agency demanded more attention and elaboration, a situation I could also contribute towards.

By the spring of 2012 I had finally resolved the direction of the work and set out in earnest on my research voyage, focussing on the question of composition through the lens of the brownfield park project and 'collateral' insights into deindustrialization, ideas of nature, landscape and the city, and the new agency of the urban park. The following pages elaborate on these topics and my results. My hope is that this work offers modest but critical new insights into how we 'know and do' as landscape architects. Just as importantly, I hope it catalyses other scholarship into the topic of composition in designed landscape praxis, in relation to discourses on site, process and form. Most critically however, I hope to trigger more attention to the particularities of brownfield sites, to the agency of brownfield parks in addressing the challenges of the 21st century city, and to our ideas of nature, landscape and indeed modernity itself, topics that are in need of a fundamental rethink in the third millennium.

1 Crutzen, 2002.

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# 1 Introduction

## 1.1 Preamble

The decades since the Second World War have seen major shifts in the economic, demographic, technological and cultural forces that shape the urban realm. One of the most significant spatial effects these forces have had is the phenomenon of de-industrialization, which has left many cities with a stock of decommissioned factories, harbours and other derelict infrastructures, now collectively termed 'brownfields'. These aberrant sites, often in sensitive socio-economic locations, have become major challenges for urban administrations, such that their re-purposing into public open spaces - so-called brownfield parks – has become an increasingly common recipe for their future [Figure 1.1].

As their numbers have grown, the brownfield park project has catalysed a growing body of scholarship in response to the practical challenges of these projects. Increasing attention has been paid for instance to technical and environmental aspects such as site decontamination and remediation.[1] Geo-science researchers have developed decision support systems to assist brownfield-to-greenspace planning in which remediation, programming, financing, participation and communication are incorporated.[2] In the fields of social and behavioural science, the physical and psychological health benefits of brownfield-to-greenspace conversions have been explored, as well as the broader social, economic and environmental value of brownfield parks.[3] In urban planning circles, the brownfield park project has also been part of studies looking into the spatial conditions and socio-economic futures of dispersed urban regions.[4] Dealing with these often spectacular relicts of industrialization has catalysed scholarship from preservation and heritage planners on the problems of maintaining ephemeral structures, and how to combine conservation with new (park) plans, while architectural scholars have turned to the brownfield park project to enlarge on topics that re-emerged in the architectural discourse such as context and public realm in the dying light of Modernism's day.

In a somewhat delayed reaction from the discipline responsible for the design of many of these schemes, academic attention from landscape architecture for the brownfield park project also gathered pace towards the end of the 20th century.[5] Given the status of landscape architecture as practical art & science, this attention was framed by the need to develop disciplinary tools to address real-world situations and problems, in particular on the agency of landscape architecture in relation to contemporary urban problematique. As such, this attention forms part of a tradition in the spatial design disciplines of plan critique: the self-aware and systematic scrutiny of built works from a

1 For example Gatliff, 1994; Carmen 2001; Schnoor et. al., 2005.

2 For example Carlon et. al., 2007; Schadler et. al., 2011.

3 For example De Sousa, 2003; Siikamaki & Wernstedt, 2008; Greenberg & Lewis, 2000; Harnik, 2001.

4 For example Sieverts, 2004; De Geyter, 2002; Sola-Morales, 1996.

5 For example Meyer, 1991; Baljon, 1992; Knuijt et. al., 1993; Treib, 1995; Diedrich, 1999.



FIGURE 1.1 Aerial View Westergasfabriek, Amsterdam. (Image: www.westergasfabriek.nl).

particular perspective.[6] More critically however, as the brownfield park project 'picked up steam' in cities affected by de-industrialization, it increasingly exposed and espoused shifts in the theoretical and methodological foundations of landscape architecture, and its agency in the problematique of the urban realm. Consequently, in the decades in which the brownfield park became an increasingly common occurrence in post-industrial cities, a growing number of scholars and practitioners became involved in a new cycle of thinking, discussing and writing about (urban) landscape design praxis through a critique of these projects.

The 'harvest' from this scholarship has been sustained and considerable, in particular in relation to the topics of site and process. New scholarship drawing on the brownfield park project, elaborated the primacy of site in the design process, positing site-based praxis as an epistemological breakthrough in (landscape) design, whereby translation of the existing replaces the abiding, architecturally-driven paradigm of ex novo invention.[7] Similar paradigmatic insights emerged from research into process-based understandings of landscape emerging in (among other assignments) brownfield park commissions. Acknowledgment of the processes of time and the dynamic nature of landscape led to a new understanding of landscape design praxis centering on a working with the processes of territories, whereby design methodologies are geared towards understanding and facilitating ecological and programmatic processes, and related notions such as indeterminacy, flexibility and performance.[8]

### 1.1.1 Whither Composition

Scholarly attention to the agency of process in particular, led to a critique of approaches to landscape design based on form and aesthetics.[9] The brownfield park project figured prominently in these arguments; in reflecting on design methodologies emerging in brownfield park designs, Berrizbeitia (2007) for instance, contended that landscape design praxis was moving towards a "process-based approach, rather than a purely compositional one".[10] But while critics of composition rightly challenge a form of praxis focussed on a formal understanding of landscape (and associated stylistic preoccupations), they overlook other interpretations of composition such as cultivated in architectural theory, in which the various dimensions of building design are brought together in a theoretical and methodological framework(s). These frameworks elaborate the multiplicity of architecture in addressing not only aesthetic aspects of building design but also its functional, technical and structural considerations. And although designed landscapes can be said to be very different kinds of design problems than designed structures, the multiplicity of the architectural praxis nevertheless continues to resonate strongly with the multiplicity of landscape architectural praxis.

6 McAvin et. al, 1991.

7 Braae & Diedrich, 2012.

8 Wall, 1999; Lister, 2007.

9 see for example Prominski, 2005; Berrizbeitia, 2007.

10 Berrizbeitia, 2007, p. 178.



FIGURE 1.2 Design Plan Westergasfabriek, Amsterdam. (Image: Gustafson Porter + Bowman).

Nevertheless, the challenging of landscape architecture as composition-based praxis by proponents of the process discourse has lead to number of pertinent (and constructive) questions for the discipline. Firstly: has the term composition been properly elaborated as a 'way of knowing and doing' specific to landscape architecture? By extension: might an alternative to the disqualification of the notion of composition in landscape architecture instead involve its fundamental revision as theoretical and methodological frame for landscape design? In this light a somewhat unlikely question also arises: might this revision perhaps be otherwise informed by emerging 'ways of knowing and doing' arising from the themes of site and process? These questions introduce a hypothetical paradox that forms the departure point for this study: that the proper elaboration of composition in landscape architecture might only now be made possible by the (r)evolution of the discipline as revealed by the brownfield park project. As such, this study proposes a re-examination of the brownfield park project as a lens into the theoretical and methodological elaboration of composition in landscape architecture.

To elaborate this hypothesis further, an example of brownfield park design praxis around the middle of this period is considered: the Westergasfabriek in Amsterdam. This project was opened in 2003 after a long process that included a preliminary design drawn up by government designers in 1985, followed by a proposal by Hans Warnau in 1991. Warnau's scheme formed the prescient to the Kathryn Gustafson design, which was adopted in 1998 and realised in stages up to 2007 [Figure 1.2].[11] The conditions that make brownfield parks such as the Westergasfabriek a fertile laboratory for innovation begin with the character of the locations themselves. Corner (2007) notes that brownfield sites "lend themselves to being transformed into radical new forms of public parkland and amenity".[12] 'Radical' here pertains in the first place to site characteristics prior to design: the dominance of remnant structures - as opposed to the open landscape space of conventional greenfield sites; their tough industrial patina - as opposed to the predominant pastoral scenery of greenfields; and to their divergent outlines and boundary conditions - as opposed to the clear delineations of former parks whose edges were designed and built together with the park. Sites such as the Westergasfabriek typify these conditions: this former coal-to-gas production and distribution facility was an irregularly shaped territory including numerous remnant industrial buildings and infrastructures in various states of decline, located in a disparate mosaic of neighbourhoods, infrastructure and peripheral landscapes [Figure 1.3].

11 Koekebakker, 2003.

12 Corner, 2007, p. 12.

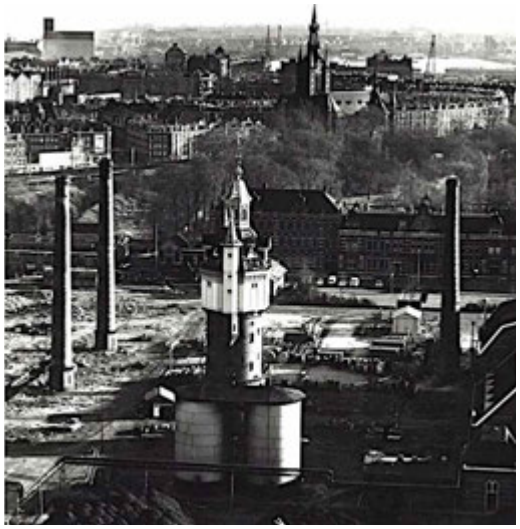


FIGURE 1.3 Westergasfabriek December 1961. (Photo: Aart Klein_Collectie Stadsarchief Amsterdam: historische foto-opdrachten. Bron: Beeldbank Amsterdam).



FIGURE 1.4 Pazzanistraat, Westergasfabriek, Amsterdam. (Photo: Dick Sijtsma, 2017).

Corner's use of the term 'radical' also reflects the emergence of strategies in working with these sites that elaborates on themes such as site and process in novel ways. The re-purposing of buildings and infrastructures at the Westergasfabriek engages a technique of 'site translations': derelict features become new cultural and commercial facilities in a strategy of domestication and association [Figure 1.4]. In this mode, site readings and their translation emerge as the central activity of the park designer, with site-specific praxis engaging not just with remnant physical features, but also with immaterial aspects such as memories and atmospheres.[13]

Working with processes is also a distinctive theme in the scheme, evidenced in the network of water catchment, retention and filtering infrastructures across the park. There is also an almost continuous programme of organized events such as markets, expositions, concerts and sideshows which, together the permanent programmes, create a dynamic socio-cultural mosaic across the park, catalysing different processes of meeting and interaction between individuals and groups [Figure 1.5]. In creating a focal point of socio-cultural activity for the local neighbourhoods, the scheme also forms a critical node in the 'social ecology' of the district.

But parallel to these site-specific and process-driven modes of praxis, other aspects of park design are also elaborated on. Westergasfabriek has a distinctive botanical-material language made up of a rich mosaic of plantings, whereby attention is paid to the way nature is represented and experienced through visceral experiences of vegetated waterways, sense-rich floral displays, and shady – and sometimes even edible – plantations [Figure 1.6]. This 'experiential nature' contrasts with the predominantly visual tropes of earlier park schemes such as the pastoral landscape of lawns and tree groves in the adjacent 19th century Westerpark [Figure 1.7].

13 Meyer 2005; Braae & Diedrich, 2012.



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FIGURE 1.5 Stenenplein, Westergasfabriek, Amsterdam. (Photo: Dick Sijtsma, 2017).



FIGURE 1.6 Cascade Picnic area, Westergasfabriek, Amsterdam. (Photo: Dick Sijtsma, 2017).



FIGURE 1.7 Adjacent 19th Century Westerpark, Amsterdam. (Photo: Dick Sijtsma, 2017).



FIGURE 1.8 Events Field, Westergasfabriek, Amsterdam. (Photo: Dick Sijtsma, 2017).

In addition, Westergasfabriek has a novel arrangement of open spaces, surfaces, screens and volumes that lend the park its distinctive spatiality and character. Particularly striking is the immense Events Field, a 2-hectare open space bordered by a long elongated paddling pool and grassed amphitheatre slope [Figure 1.8]. This spatial schema is reinforced by the way one experiences this ensemble from the network of routes, ranging from the central straight pedestrian concourse down the centre of the scheme to the meandering, plant-flanked 'Broadway' and the informal tracks leading to seating areas in vegetated groves. Zooming out, this circulation scheme also knits up a network of routes and environments bordering the old gas plant, such that a vast 50 hectare urban landscape territory emerges, including the nineteenth-century Westerpark, a remnant polder landscape, an adventure playground, stable complex, school gardens, allotment garden complex and an old cemetery [Figure 1.9]. These linkages not only demonstrate the bringing of these worlds together, they also forefront the scope of landscape design in establishing relationships between adjacent territories and systems. Furthermore, a mosaic of permanent social activities such as cinemas, cafes, bars and restaurants, workshops and studios are located in repurposed buildings and infrastructure. These last observations infer that, while site-specific and process-based approaches form critical new dimensions of the Westergasfabriek scheme, other facets of park design are elaborated too, such as experiential, spatial, programmatic and organizational aspects.



FIGURE 1.9 Wester-parklands, Amsterdam. (Base Image: Google Earth, Montage: Author).

### 1.1.2 Expanding on Composition

The expanded scope and comprehensiveness of landscape design demonstrated by the Westergasfabriek scheme has been tentatively elaborated by various scholars reflecting on, among other things, brownfield park projects.[14] An often-cited theory comes from the urban landscape theorist Sebastian Marot, who proposed four principles to describe contemporary urban landscape architecture praxis: recollection of previous histories (*anamnesis*); staging and cultivating of new conditions (*preparation*); choreographing the particular materiality and spatiality of landscape space (*three-dimensional sequencing*); and attention to (the relationship with) boundaries, adjacent areas, surroundings and backgrounds (*relational structuring*).[15] The work of Marot (and others) has contributed to a divergence of perspectives on the praxis of landscape architecture, whereby the topic of composition has been relegated to perspectives such as Marot's elaboration of landscape (design) as 'three-dimensional construction'. As such, it is also commonly couched within formal-morphological traditions.[16]

The aggregate of design dimensions at the Westergasfabriek however, makes up a composite whole that is more the sum of its parts. This comprehensive (and integrative) capacity may be said to be a defining agency of landscape design; Sijmons (2012) describes landscape design as a synthesising activity that is about putting things together rather than taking them apart, about the relations between things and not the things alone. Considering landscape architecture as part of design thinking more generally, similar reflections arise. Carmona (2012) observes that design is holistic enterprise: "what matters is the totality – the whole – being created", and that as a consequence design responses must satisfy several aspects of a design problem simultaneously.[17] Design in this sense is about more than visual appearances, but involves 'deep form': the design of a car for instance is not just about the styling of the exterior but also the performance of the engine, the comfort

14 See for instance Girot, 1999; Marot, 1999; Prominski, 2004.

15 Marot, 1999, p. 50.

16 see for instance Nijhuis, 2013.

17 Carmona et, al., 2012, p. 71.

of the interior, its ergonomics, weather resistance and security system etc.[18] In elaborating the specific instrumentation and vocabulary of landscape architecture as design discipline, the idiom of composition may form an appropriate concept to describe this synthesizing activity, albeit a broader interpretation of it than prevailing understandings of composition such as in the visual arts. Two questions arise here: what is the specific integrative agency of landscape architecture, and how might a (revised) understanding of the notion of composition embody this integrative capacity? The answers to these questions may bring the various perspectives of designing landscapes suggested by Marot together into a (single) methodological frame.

Delving further, whether composition in landscape architecture has been sufficiently discussed and defined, or elaborated as both theoretical notion and as methodology, can be questioned. The paucity of scholarship on the subject underscores this; in comparison to other topics, relatively little work has been done on composition in landscape architecture. Moreover, studies on designed landscape composition through the lens of the brownfield park project have to date received only sporadic attention.[19] This study takes this relative paucity of work as its departure point, proposing to elaborate on composition in landscape architecture by examining the now extensive repertoire of brownfield parks realised in the period 1975-2015. The accumulated level of novelty and innovation demonstrated by these projects is anticipated to offer a critical basis to inform the theory and methodology on this topic.

### 1.1.3 The Recovery of Landscape

An elaboration of composition as theory and methodology in landscape architecture is further framed and problematized by landscape architecture's shifting profile in the modern period, in particular in relation to Modernism and (Modern) architecture. Developments such as the process discourse reflect the recovery of interest in landscape in the broader cultural imagination in the post-war period. Corner (1999) lists the rise of environmentalism and global ecological awareness, tourism's erosion of regional identity, and urbanization of rural territories as motivations for the reappearance of landscape in the post-war imagination. These patterns can also be seen as symptoms of a broader societal pursuit of new visions of nature, and of the role of place, history and memory in our daily environment, a development paralleled by increasing scholarly attention to landscape in the arts, humanities, and social sciences from the 1960s onwards.[20] Landscape's new-found criticality contrasted starkly with conceptions propagated by the Modernist avant-garde for most of the 20th century, whereby landscape – and its protagonists garden and landscape design - was seen as part of a subjective, emotional world that did not 'measure up' to the objective and functional standards of Modernism.[21] To Modernists, landscape was bucolic scenery, an Arcadian opposite of the built environment, to be mustered up in the service of agendas of nostalgia, anti-consumerism or environmentalism.[22]Landscape scholars questioned the

18 Ibid.

19 An exception is the work of Baljon [1992] who analysed schemes for the Parc de la Villette competition.

20 For example: Gregotti, 1966; Lemaire, 1970; Corboz, 1983, Cosgrove, 1984, Schama 1995.

21 De Jong keenly notes that this recovery resonates with the presence of landscape in the cultural imagination in eighteenth century Europe, which embodied a highly differentiated cultural tradition expounding the complex relationship between nature and culture, design and ecology, nature conservation and experience.

22 Corner, 1999.

modern (western) tradition of design as exemplified in Modernist architecture, whereby the creation of new forms and the cultivation of *novelty* embodied the modern paradigm of 'progress'.[23] The recovery of landscape thus (understandably) questioned principles of landscape composition - and composition-based praxis in landscape architecture - associated with an architectural culture rooted in Modernist thinking. On the face of it, this assumption has some basis. Scholarship on the operative dimensions of landscape design undertaken in the Modernist period was largely dictated by the codes and practises of architecture and urbanism, a situation that informed a culture in which garden layouts could be analysed in more or less the same manner as the floor plans of buildings. New insights on landscape the other hand, posited a dynamic, process-oriented understanding of landscape (and landscape design) in contrast to the static and formal preoccupations of architecture. Landscape (design) was also differentiated from architecture by the specifics of a situation, and by its scale. As such, composition was seen to have 'flown (landscape) to close' to its sister discipline architecture.

But while the contention that designed landscapes are very different to the products of architecture holds sway, what is overlooked in this argument is the nuance that there remains a similarity of the subject matter of both architecture and landscape. Both disciplines continue to shape (and give meaning to) the settings of everyday life.[24] More particularly, the mandate of landscape architecture – as architecture – remains the creation of spatial, visceral and meaningful environments for (everyday) life. How the particular spatiality, materiality and temporality of landscape are elaborated is evidently different to architecture, but at the same time it also resonates with it, positing the notion of composition as also relevant to landscape architecture, albeit in a different iteration. Giving form and meaning to everyday environments also (necessarily) engages the complex topic of aesthetics.
In relation to this, the brownfield park project - and by extension other landscape architectural assignments - has increasingly been posited within an idea of landscape as a temporal phenomenon that eschews aesthetics, and by extension landscape architectural praxis as a programming of evolving systems, not the shaping of static appearances. In its own way, the site-specific discourse also skirts around the topic of aesthetics, focusing as it does on embodied layers of meaning within locations themselves, rather than on aesthetic *as such*.

Somewhat paradoxically, the brownfield park project has provoked alternative views on this topic. Braae (2015) notes that post-industrialization has muddied the conceptual juxtaposition between man and nature, town and country, tame and wild, and that this is more reason, not less, to consider aesthetics in landscape architectural theory and praxis. She holds that these landscapes challenge abiding ideas of beauty and nature, which in turn invite a new consciousness of the natural world and our role in it - as opposed to the bucolic imagery of the pastoral that persists as a default response to the evils of industrialization, and the dominant aesthetic for the design of public landscape since the mid-nineteenth century.[25]

In similar reflections, Rosenberg (2009) asks two important questions: "Is there a new landscape aesthetic emerging from industrial ruins?" - and - "How, in this post-industrial age, do we reimagine our relationship to nature, technology, and landscape?"[26] *What* the answers to these questions are is possibly less important than *how* they are to be answered. In this regard the substance to tackle them

23 Braae, 2015.

24 Leatherbarrow, 2004.

25 Braae, 2015.

26 Rosenberg, 2009, p. 209.

consists in the first place of the (sensible) world around us. The implications of this for landscape design are far-reaching: that the appearance of our environment directly influences our ideas of nature and landscape, and that designed landscape form the primary realm for imagining new relationships to nature and landscape. Which kind of aesthetic language emerges in brownfield park project, and how this is instrumentalized in the methodological framework of landscape design, falls squarely within an elaboration (and revision) of the theoretical and methodological delineations of composition in landscape architecture.

### 1.1.4 The Contemporary Public Realm & the Expanded Agency of Landscape Architecture

A revision of composition as theory and methodology is also informed by the expanding agency of landscape architecture in the urban realm. The upsurge of interest in landscape and the criticism of Modernist ideologies resonated particularly in urban environments. Modernist assertions that humanity could create and shape a new world based on scientific knowledge and technology led to the planning and design of cities propagating large-scale solutions, aesthetic standardisation and prefabrication.[27] From the 1960s onwards, these practices were increasingly criticized as homogenous urban landscapes that failed to recognise territorial and cultural differences, or produce a 'meaningful' or 'liveable' public realm.[28] In a similar vein, Modernism's rejection of history and historical landscapes attracted increasing criticism; Rossi (1982) noted the failure of Modernist thinking to come to terms with the city as historical construct of collective consciousness.

The ensuing reform of public (open) space policy in many European cities from the 1970s onwards, together with a more general renewed interest in the public realm, prompted a series of new city park initiatives in cities such as Barcelona and Paris, and later in other European and North American cities. Many of these parks were developed on derelict industrial sites, as their location in these sensitive socio-economic areas made them suitable environments to create a (more) liveable and meaningful urban realm. Their agency was essentially different to former parks in that they were to right the mishaps of modernist urban planning, not embody them.[29] The mix of recreation, culture, arts and entertainment in the competition programme for Parc de la Villette in Paris for instance, was illustrative of a new park model that greatly extended on the *rus-in-urbe* park model of the 19th century municipal and the 20th century functionalist park in its embracing of urbanity and urban functions.[30]

The expanded agency of the city park was not an isolated incident, but reverberated in subsequent brownfield parks such as the Westergasfabriek, propelling a new elaboration of landscape praxis in the vortex of contemporary urban problematique. This new role demands an expanded operative modus, whereby landscape architecture and its 'productions' are increasingly central to human and social needs. These aspects in turn resonate with a vibrant (and democratic) public realm: the municipal park as a stage for political representation and action, and as a neutral ground for interaction, communication and social learning. The 'social dimensions' of landscape architectural praxis is not

27 Berman, 1988.

28 Sennett, 1977; Lynch, 1981.

29 EPPV (Etablissement Public du Parc de la Villette), 1982.

30 Steenbergen & Reh, 2011.

limited to park design but pertains to all designed landscapes in some way or other. This mandate has traditionally received limited attention in the discipline. As such, framing these aspects in a more instrumental way informs a revised elaboration of composition as methodology.

### 1.1.5 Dissolving Cities and the Conceptual Agency of Landscape

A related thematic of relevance to a re-examination of composition in landscape architecture is the agency of landscape in the problematique of the (urban) territory. Parallel to new attention to the subject of landscape in relation to (the ills of) modernity, scholarship unfolded in search of new instruments to understand, order and act in the contemporary city, whereby the conceptual and operative potential of landscape emerged [Figure 1.10]. Towards the end of the 20th century, design and planning discourses increasingly turned to landscape for its capacity to theorize and project sites, ecosystems, networks and infrastructures, and in particular championing it as agent to work with territories characterized by horizontal sprawl and rapid transformation.[31] By paying attention to the configuration, materiality and performance of (landscape) surfaces, designers could develop new ways to order and activate territories and spaces.[32] Reflections on the city as horizontal territory resonated in turn with the increasingly suburban condition of contemporary urbanity, one that exceeded the scope of the conventional urbanism and architectural repertoire.[33] In many urban regions the distinctive physical characteristics of city and countryside has evolved into a mosaic of fragmented territories in which elements of both realms re-array themselves in a vast, urban-landscape system.[34] The emergence of movements such as Landscape Urbanism posited landscape as a lens through which the post-modern city could be represented, and a medium through which it could be constructed.[35] As an alternative to the rigid mechanisms of centralist planning, Landscape Urbanism offered a more flexible approach involving organization, dynamic interaction, ecology and technique, notions seen as more akin to the real complexity of contemporary cities.[36] Understanding, ordering and acting in this system fitted well with landscape praxis; its ability to comprehend and work with the underlying landscape 'superstructure' of the territory, to deploy its mosaic of landscapes and infrastructure to spatial, social and ecological ends, and to intervene and steer the long-term evolution of these complex 'metropolitan machines'.[37]

31 Shannon, 2006.

32 Wall,1999.

33 MacBurnie, 1995.

34 Neutelings, 1989; Sieverts, 2004; Van der Velde & De Wit, 2009.

35 Waldheim, 2006.

36 Corner, 2006;

37 Sijmons, 2014.



FIGURE 1.10 Urban Transformation of former harbour islands Borneo+Sporenburg, Amsterdam 1993-1996. Design: Adriaan Geuze, Wim Kloosterboer, Sebastiaan Riquois, Yushi Uehara/West 8. (Photo: De Architecten Cie).

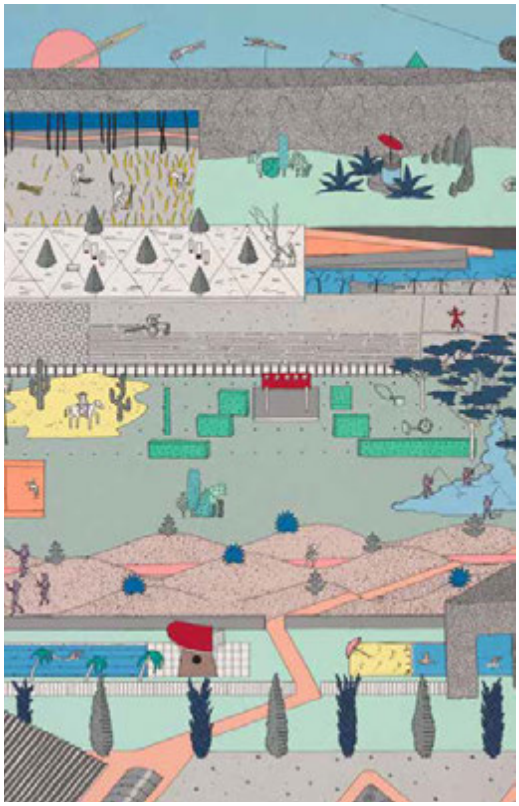


FIGURE 1.11 Parc de la Villette Competition submission, Cartoon of programmes. Rem Koolhaas/OMA, 1982. (Image: NAi, Rotterdam).

As the 20th century drew to a close, landscape thus became increasingly central to the architectonic, urban and infrastructural project; indeed it was seen by many as the new game-changer in the built environment praxis.[38] The agency of landscape in the problematique of the urban 'territory' arose in part on the back of the brownfield park project. Many of the submissions for the competition for Parc de La Villette for instance, explored how landscape as a medium could enable complex relations between urban programme, infrastructure, territory and dynamic futures on the post-industrial site [Figure 1.11]. Building on these ideas, schemes such as those realised in the Ruhr region on former mining and steelmaking sites engaged with the processes of industrialization and the bio-physical and urban-infrastructural systems of the greater urban territory. In this frame, an elaboration of composition explores the synergy of process and form that gives shape to the various systems within and beyond a designed landscape (site). A review of composition as methodology thereby expands on procedures that accommodate critical new challenges for cities such as (dealing with) biodiversity, water management and (micro)climate.

38 Waldheim, 2006.

## 1.2 Hypotheses, Research Objectives & Research Questions

### 1.2.1 'Ways of Knowing and Doing' in the Brownfield Park Project

The hypothesis for this research is initially informed by the lack of attention that has been paid to the topic of composition (in the discourse around brownfield parks) thus far. The dearth of scholarship on composition may be put down to its fundamental centrality in design; researchers have quite simply not ventured to re-examine composition as yet. Nothing ventured, nothing gained; or more critically, to not re-examine composition is to discard it without proper cause. As such this research is firstly framed by the tradition of scientific rigour, whereby the interrogation of existing knowledge forms part of a vital academic culture. By extension, whether composition in landscape architecture has been sufficiently discussed and defined remains in question, including its elaboration as theoretical notion, and methodology.

This study thus takes the paucity of work on composition in landscape architecture as its departure point, proposing to elaborate on it by examining the now extensive repertoire of brownfield parks realised in the period 1975-2015. The number and typological range of parks in highly varied geographical and cultural contexts represents an output sufficient to develop the thesis of the research. The accumulated level of novelty and innovation in these projects offers a 'critical mass' of knowledge, which can inform an elaboration of theory and methodology on this topic. The collective brownfield park project may thus be posited as a lens through which various 'ways of knowing and doing' were channelled and focussed, a hyper-conductor in which broader developments are made palpable and transferable into design theories and methodologies.

### 1.2.2 Hypothesis 1: Revision to Landscape Design-as-Composition

Specifically, the research posits (an expansion of) the notion of composition as theoretical framework and (set of) methodological procedures, to describe the multidimensional and integrative agency of landscape architecture. By extension, the research examines how the various perspectives of designing landscapes (such as those suggested by Marot) might be brought together into a theoretical and methodological frame. This proposition is in turn informed by the perceived rejection of composition-based praxis from proponents of landscape (architecture) as a process-based agency, and/or site-specific praxis. As such, a subsidiary hypothesis for this scholarship is that paradigms such as process and site-specificity may form part of a broader compositional framework (that still needs to be developed). Backgrounding this hypothesis is the contention that current landscape composition theory and methodology has been anchored in a (Modernist) architectural tradition, and is thus in need of review in the context of an era beyond Modernism (and beyond architecture).



FIGURE 1.12 Gasworks Park, Seattle. Design: Richard Haag. (Photo: Unknown).

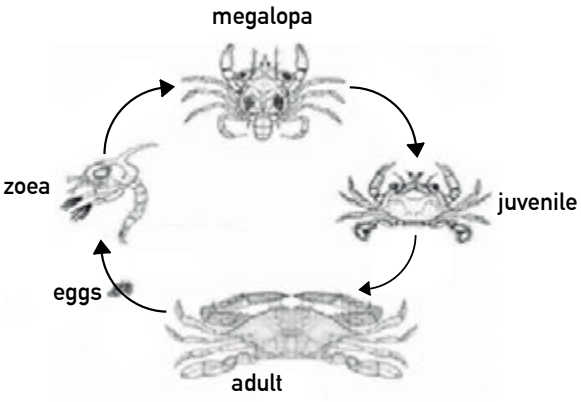



FIGURE 1.13 Life cycle of the Blue Swimmer Crab (Image: adapted from Bilbay 2014).

### 1.2.3 Hypothesis 2: Ecdysis

A further hypothesis for elaborating on landscape design-as-composition via the brownfield park project, is the evolving body of knowledge emerging from this now considerable repertoire. Successive schemes for brownfield parks in Europe and North America are assumed to have teased out the conceptual and instrumental agency of landscape in different ways, building a body of work that both exposed contemporary urban problematique and espoused new forms of praxis. This evolution is mooted to have begun with Gasworks Park in Seattle, a scheme by landscape architect Richard Haag on the site of a former coal-to-gas plant located on the north shore of Lake Union, which was converted to parkland in 1975[39] [Figure 1.12]. Notable later projects include Parc de la Crueta del Col, Barcelona (1976); Parc l'Escorxador, Barcelona (1983); Parc del Clot, Barcelona (1986); Parc André-Citroën Paris (1992); Parc de Bercy Paris (1992); Promenade Plantée, Paris (1993); Landschaftspark Duisburg-Nord, Ruhr (1994); Landschaftspark Nordstern, Ruhr (1997); Griftpark, Utrecht (1999); Westergasfabriek, Amsterdam (2003); Zollverein, Ruhr (2002); Olympic Park, Sydney (2000); Cockatoo Island, Sydney (2005); Park Spoor Nord, Antwerpen (2006), and the High Line in New York (2009); Olympic Park, London (2012); and High Line, New York (2015).

A compelling metaphor for this process is the phenomenon of ecdysis in arthropods (invertebrate animals such as insects, spiders, snakes and crabs), in which the juvenile stage may have several sub-stages (*instars*), each one a different version of the one before [Figure 1.13]. Ecdysis refers to the moulting of the cuticle of these animals, which typically forms an inelastic exoskeleton that needs to be shed to allow growth. During this phase the animal expands, since growth is otherwise constrained by the rigidity of the exoskeleton. Analogous to the moulting of the exoskeleton in arthropods (that facilitates

39 Notwithstanding the occurrence of abandoned industrial sites since the beginning of the industrial revolution, I restrict the term brownfield to sites resulting from deindustrialization processes since the middle the 20th century.

abrupt changes in their form and appearance), the metamorphosis in design approaches between the brownfield parks is hypothesized to elaborate the theoretical and methodological development of landscape architecture in demonstrable leaps. I contend this period to begin with Gasworks Park in 1975 and to (provisionally) end with the opening of the final stage of the High Line, New York, in 2015. This period is not intended to constitute a definitive 'alpha and omega' of the ecdysis of landscape design-as-composition praxis, but rather to represent a significant and comprehensive body of work that permits valid examination.

### 1.2.4 Hypothesis 3: The Agency of the Brownfield Park in the Contemporary City

A related proposition is that topics of form, space and aesthetics, as well as notions of society and nature, form a critical part of a revised framework of landscape design-as-composition praxis. These aspects 'unfurl' the expanded agency of landscape architecture in the urban realm, whereby the discipline's productions address human and social needs, as well as the territorial (infrastructural and bio-physical) problematique of cities. A revised elaboration of composition as methodology via the brownfield park project is hypothesized to frame these aspects in a new and instrumental way. In the shadow of this hypothesis lies the emerging problematique of the contemporary urban realm, and the 'seismic shifts' in the form and content of the city in the period since the 1970s. Elaborating on the brownfield park project as spatial typology and design problem is posited to disclose how these projects revise many of the paradigms that define contemporary (planning and design) culture in relation to the urban realm, a revision that also draws on developments pre-empting and back-dropping the projects themselves: the phenomenon of de-industrialization, its productions (brownfield sites), and their impact on the fabric of the city, the life of its inhabitants and the paradigms that dominate urban culture.

### 1.2.5 Research Objectives

Leading on from the above, the objective of this dissertation is to explore the brownfield park repertoire from the perspective of landscape architecture as synthesizing and integrative compositional activity, whereby emerging aspects such as site and process are examined and considered as part of a deepening and broadening of landscape composition. The goal hereby is to articulate the domains of landscape architectural praxis as an independent trajectory of knowing and doing. Through a comprehensive investigation of the brownfield park project in the period 1975-2015 this study will attempt to transform compositional modes anchored in Modernist architectonic thinking into a compositional framework embedded in landscape architectural thinking.
Ancillary to this objective is an overview of the particularities of contemporary brownfields and brownfield parks as territorial developments and spatial problems. The study thus aims to reveal the evolution of a new city-park dialectic emerging in the brownfield park project, which reveals how park designs on post-industrial sites address contemporary urban problematique. Elaborating on the brownfield park project as spatial typology and design problem is also posited to disclose how these projects revise some of the paradigms that define contemporary (planning and design) culture in relation to the urban realm. In the slipstream, the research also attempts to shed new light on the 'seismic shifts' in the form and content of the city itself in this period. Finally, developments pre-empting and back-dropping these projects themselves - the phenomenon of de-industrialization, and its impact on the fabric of the city, the life of its inhabitants and the paradigms that dominate (urban) culture – are highlighted.

### 1.2.6 Research Questions

Proceeding from these objectives, the principal research question is:

- **Has the brownfield park project expanded and/or transformed the theoretical framework and (set of) methodological procedures of landscape architecture as compositional praxis?**

With the assumption of a "yes" to this question, the research question is reformulated thus:

- **How has the brownfield park project expanded and/or transformed the theoretical framework and (set of) methodological procedures of landscape architecture as compositional praxis?**

Sub-questions include:

- **How does this revision of landscape design-as-composition praxis incorporate site-specific and process-based interpretations of landscape (architecture) praxis?**
- **How does the brownfield park project in the period 1975-2015 transform compositional modes anchored in Modernist architectonic thinking into a compositional framework embedded in landscape architectural thinking?**
- **What does the new city-park dialectic emerging in the brownfield park project reveal about how park designs on post-industrial sites address contemporary urban problematique?**
- **Which revisions of the paradigms that define contemporary planning and design culture in relation to the urban realm come to the fore in the brownfield park project?**

Back-grounding the central research question is a specific question in relation to the process of development:

- **Does the theoretical and methodological 'maturation' of the discipline catalysed by the repertoire of brownfield parks realised in the period 1975 – 2015, correlate the phenomenon of ecdysis in invertebrate animals in a metaphorical or even functional way?**

Fore-grounding these main questions is a set of preliminary inquiries:

- **What are the theoretical and methodological dimensions of composition in landscape architecture, and which related notions inform its critical revision?**
- **What frameworks for design-as-composition praxis already exist, and which one best matches the particular scope of composition elaborated in the preceding?**
- **Which aspects of this framework are sound, and which require consideration and revision?**
- **What is a 'brownfield', and what are the typological delineations of brownfield parks?**

## 1.3 Scope and Relevance

The elaboration of landscape design-as-composition praxis is expected to contribute to the broader academic explication of the discipline of landscape architecture. In this sense the primary resonance of the study is in disciplinary theory and methodology: how can one better articulate composition in landscape design and thereby articulate landscape architecture as a discipline? Challenging and

amending theoretical and methodological frameworks also forms part of healthy academic practice common to any field or discipline. Moreover, in attempting to incorporate seemingly incongruous modes of praxis into a landscape composition framework, the study also pulls together disparate strands of the discipline that for various reasons have embarked on alternative trajectories.

This study does not claim however to invalidate these trajectories, but rather to provide an alternative reading of developments with the intent of forwarding theory and praxis in landscape architecture. As such, this scholarship forms part of a larger collective reorientation and in some cases a 're-writing' of disciplinary foundations. Backgrounding this reorientation is the recognition of the vitality of the discourse, which signals the potential scope of landscape and the breadth of the discipline of landscape architecture. This mandate sees the agency of landscape (and its embodiment in landscape architecture) as a lens to critically engage with the formative forces of contemporary society, thereby becoming an active agent in shaping modern culture, as opposed to merely imitating it.[40]

The explication of composition is also useful to related disciplines by putting forward a schema to sharpen their own theoretical and methodological foundations, as well as making explicit what landscape architecture is about, in multi-disciplinary situations. Perhaps the greatest potential resonance of the research however, is in the area of education. Forming as it does part of a practical group of disciplines including engineering and design, all theory and methodology in landscape architecture is a specific kind of fundamental knowledge, in the sense that it is *applied*. From this perspective theoretical frameworks inform methodological procedures in design.

Societal benefits are also expected from the research. From the perspective of commissioning and designing, this thesis contributes to how urban administrations can deal with one of the most pervasive design challenges of the 21st century - the conversion of the detritus of the industrial era to meaningful new territories. With the number of brownfield sites in cities around the world continuing to grow, their re-development presents major challenges to cities. This dissertation helps reveal how the agency of parks on post-industrial sites addresses contemporary urban problematique. By extension, it also elaborates on the brownfield park project as a reincarnation of the urban park with a new and critical relevance to the contemporary urban realm. These kinds of projects can radically complement the spatial and functional makeup of neighbourhoods, and steer their spatial development and influencing the social, cultural and economic fortunes of districts and even entire cities. In this frame a critical role of this research is to articulate the full complexity of the brownfield park project as such, informing the role of the park commissioners in driving and shaping these schemes.

Finally, in the periphery of this topic lies the discourse on the brownfield park project as part of a movement towards a new landscape aesthetic. Braae (2015) postulates that brownfield parks herald an age in which we have discovered new ways to work with the ruins of industrialism, to create new urban landscapes in a movement comparable to the baroque conquest of the horizon, or the stylistic naturalization of the enlightenment. This dissertation hopes to contribute in some way to an elaboration of this paradigm shift.

40 Mitchell, 1994.

## 1.4 Research Strategy

### 1.4.1 Design Phenomenology

To answer the main research question: "How has the brownfield park project expanded and/or transformed the theoretical framework and (set of) methodological procedures of landscape architecture as compositional praxis?", the research strategy is narrowed down to the field of design knowledge. In discussing the acquisition of *design knowledge*, Cross (2006) proposes three sources: [1] Design Epistemology (study of designedly ways of knowing), [2] Design Praxeology (study of the practise and processes of design), and [3] Design Phenomenology (study of the form and configuration of design products). Despite the potential of the first two sources to deliver insights on the research topic, the analysis of design schemes themselves, i.e. design phenomenology in Cross' terminology, offers the most effective form of knowledge acquisition for the research objectives. Investigating the 'products of design' recognizes them as instrumental in that it helps us understand a particular issue - in this case landscape composition and the domains of landscape design praxis – whereby this issue is not necessarily explicit in the minds of the designers, nor in the processes by which the designs emerged, but may be distilled from the projects themselves through structured analysis. A further evident advantage of this mode of research is the consistency and availability of the source (the built project), and the ability to investigate an existing physical environment and the documentation on it using descriptive methods, analytical drawings and other visual representations. Extending from this, the primary research method can be described as the descriptive case study.

### 1.4.2 Critiquing and Developing an Existing Framework

The case studies themselves are prefaced by a discussion of the theoretical and methodological aspects of composition in landscape architecture. This in answer to the question: "What are the theoretical and methodological dimensions of composition in landscape architecture, and which related notions inform its critical revision?" A critical choice in this discussion is whether to proceed using an existing compositional framework. Working on an existing framework assumes an established academic tradition of critiquing the current body of knowledge. The mandate to re-examine landscape composition theory and methodology thus best proceeds via the review of existing compositional frameworks, to hold them up against the light of postmodernity, and with the lens of a recovered landscape idiom articulated in the brownfield park project, review and amend it. Methodologically, this implies that an existing framework is chosen and used as both a method in the case study analysis, as well as a framework to be transformed along the way.

### 1.4.3 Auxiliary Research Methods

In order to review and amend an existing design-as-composition framework, input is generated from a series of additional analytical steps in each case study. A first step includes an examination of the historical transformation of the case study park site over time, with drawings made of the configuration of the site and its context recording seminal moments of transformation. This work enables a discussion of the morphology of each site and its context during processes of industrialization and de-industrialization. The societal and territorial context leading up to the realization of the park is also examined in this step, including actors, occurrences and forces preceding the design. The context study also includes a mapping of the contemporary natural, cultural and urban morphology of the region. This step is followed by a review of the design approach and project reception, including a description of each designer/design team and the competition submission, and a review of the reception of the scheme in the literature informing various themes of relevance to the composition analysis. Thirdly, the case study parks are examined in site visits involving structured observations, geared towards revealing experiential aspects of each park overlooked in desk research. This combination of strategies results in a complex description of each case study park that also has the advantage of being able to be 'triangulated' (i.e. mutually reinforced evidence from different sources).[41]

### 1.4.4 Choice of Parks

Examining all of the brownfield parks realised in the period 1975 – 2015 is clearly prohibitive. Given the extensive character of the research design, the number of case studies is limited to three. Chronologically, this roughly correlates to one park per ten years. Additional parameters for the choice of case studies include geographical and typological diversity, as well as the size and configuration of the project, and the background of the design team.

## 1.5 Research Structure

Pursuant of the research strategy, this dissertation is structured into four sections [Figure 1.14]. Part One (Framing Composition) considers the subject of composition in landscape architecture by looking into the theoretical and methodological foundations of composition in relation to designed landscapes, and the factors that inform a critical review of it in the lead-up to the case studies. Chapter 2 discusses fundamental aspects of landscape architecture embodied in the traditions of 'garden' and 'territory', and iterations of the term landscape that critically inform landscape composition frameworks, including the subject of representation. This is followed by a lexical discussion of the term composition itself as it relates to landscape design praxis, and the development of landscape architecture as multi-dimensional and integrative praxis. Chapter 3 includes a review of the existing methodological frameworks elaborating compositional praxis, and finishes by selecting the most suitable method

41 Deming & Swaffield, 2011.

to proceed with. The dissertation then proceeds in two ways: on the one hand to elaborate on how existing methods succeed as frameworks to describe the agency of landscape design praxis, and on the other to critique them from various angles. This critique includes a review the pedigree of approaches to composition in modernist thinking and architectural discourse, a discussion which forms a prelude to the application of a chosen method in analysing the brownfield park case studies, and its 'ecdysis' into a new composition framework for landscape design praxis.

Part Two (Brownfields and Brownfield Parks) elaborates on urban brownfield lands from a geographical, cultural and territorial perspective, exploring their definition, contexts and extents, before discussing their transformation into parks from an historical and typological perspective. Chapter 4 discusses the development of brownfields in the context of industrialization and de-industrialization, and the ensuing variety of brownfield categories in contemporary cities. Chapter 5 outlines the historical context of park designation on brownfield sites, including a description of significant contemporary brownfield parks. It concludes with a discussion of the choice of parks to consider further as case studies. From this overview a choice of case study parks is defined. Part Three (Case Studies) analyses three projects from key periods, contexts and typologies. Each case study is structured into six steps, beginning with a review of the project context, including site developments and the spatial, social and environmental context of the scheme, as well as the park designation process. This is followed by a review of the design approach and the reception of the scheme in the literature, elaborating on various themes relevant to designed landscape composition. Step three examines the built project using structured observations during site visit(s). The case study then proceeds with a breakdown of the scheme into various procedures using a selected methodological framework chosen in Part One. All stages are then discussed in a final step (Summative Discussion), which critiques and reviews the selected methodological framework based on insights emerging from the cumulative stages. The study concludes with Section Four (Conclusions, Reflection & Outlook), which synthesizes the insights emerging from research, reflects on the subject matter and the conclusions, and offers a perspective on related and future topics around the research problematique.

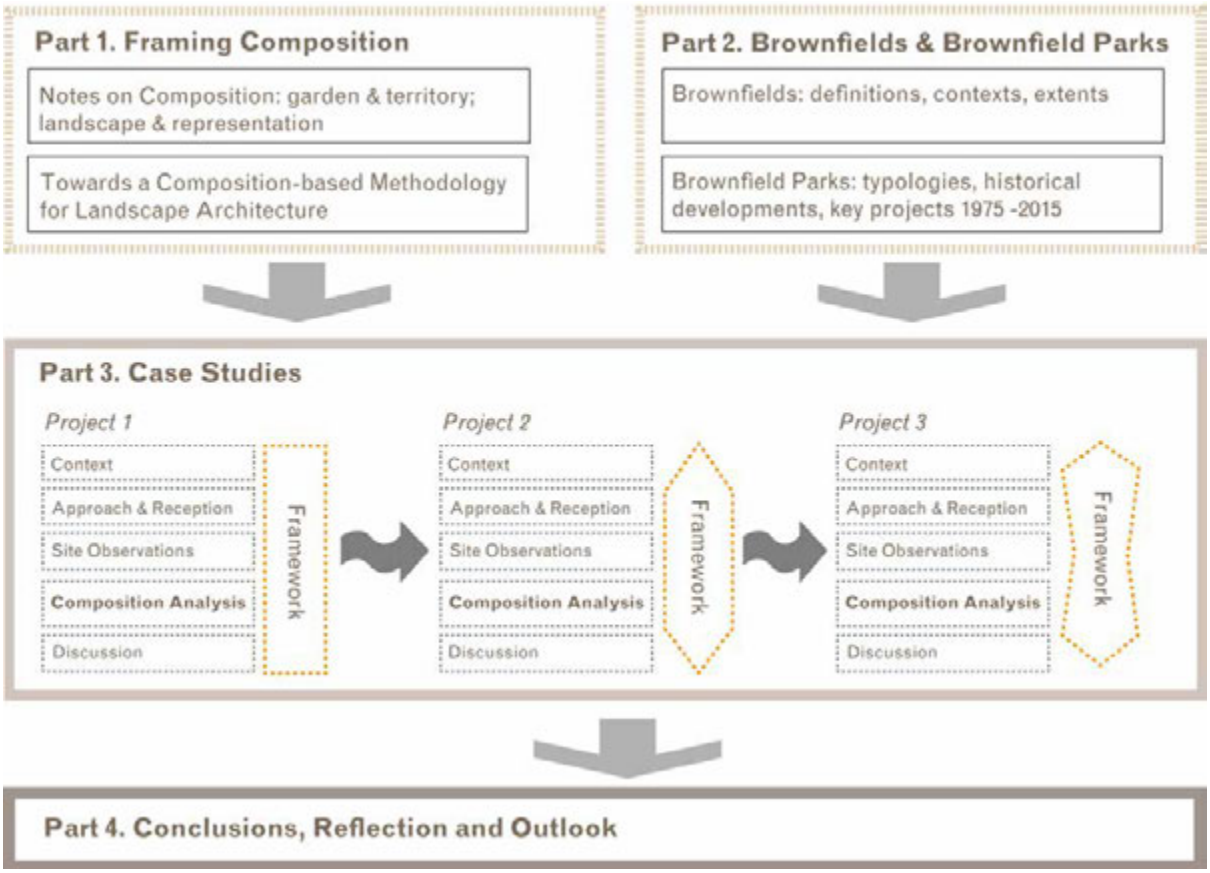



FIGURE 1.14 Research Structure.

TOC

# PART 1 Framing Composition



TOC

TOC

# 2 Notes on Composition

Before turning to the case studies themselves, the topic of composition in landscape architecture is elaborated from a conceptual, theoretical and lexical perspective in this chapter. A first step in this review is the consideration of fundamental aspects of designed landscapes that distinguish them from other 'products' of spatial design. As revealed by the introductory discussion of the Westergasfabriek scheme, the themes engaged in this park are multi-facetted: not only is there evidence of site-specific translations and process-oriented measures, but also attention to aesthetic and experiential aspects, and to social and ecological functioning. These aspects moreover, are addressed at various scales, from individual situations in the park to the broader context of the neighbourhood and the larger landscape context. An elaboration of these aspects from a historical-theoretical perspective, whereby the foundations of the discipline are re-visited, critically informs a revision of landscape design-as-composition praxis.

## 2.1 Garden & Territory

Such a review is initially informed by the contemporary scope of landscape architecture. As a profession, landscape architecture is highly diverse, with the scope of commissions in contemporary practice covering a spectrum of contexts, scales and activities: from regional environmental planning to urban land use planning, from infrastructure planning and design to green space planning, from maintenance of parks and historic gardens to project monitoring and implementation, and from expert consultancy services to presentations and mediation.[42] These diverse forms of praxis can be distilled back to three fundamental disciplinary domains and skillsets: landscape planning, landscape design and landscape management. Landscape planning involves the long-term development and preservation of natural and cultural landscapes through strategic concepts and land use planning; landscape design is concerned with the spatial, functional and aesthetic arrangement of landscape elements to achieve desired social, cultural and ecological outcomes; while landscape management is concerned with the continuity and maintenance of landscape resources.[43]
Reflecting on these domains from an historical perspective, Vroom (2006) contends that the broad scope of the discipline may be traced back to two distinctive traditions: *garden art* and *landscape design*; the first involving the artistic creation of outdoor spaces of limited size and purpose, and the second dealing with the planning of territories addressing the interaction of natural factors such as geomorphology, soil, climate and actors, over time. These traditions broadly correlate with the contemporary disciplinary domains of knowledge *landscape design* and *landscape planning*, as well as with two realms of landscape architectural praxis: *garden design* and *regional landscape architecture and planning*. If *garden art* and *landscape design* can be considered prototypical arenas of landscape architecture, they also offer a useful first lens to consider the notion of composition in landscape architecture. More particularly, the themes presented by the Westergasfabriek scheme clearly resonate with aspects of garden art on the one hand, and on the other with larger themes implicit to landscape design. Examining these two traditions (or 'trajectories') is therefore useful in 'backgrounding' an expanded scope of landscape design composition emerging in the brownfield park project.

42 International Labour Office, 2012

43 Stiles, 1994a, 1994b; Thompson, 1999

In terms of a review of composition as it applies to landscape architecture, some terms and concepts are elaborated further. As noted, Vroom (2006) uses *Garden Art* in reference to the design of outdoor spaces of a limited size and particular character and purpose, and *Landscape Design* for plans for whole territories that set out guidelines for development and preservation. 'Art' in the Garden Art tradition however – and certainly in the contemporary professional context - can be said to lay claim to both 'landscape' and 'design'. To further differentiate these two traditions in relation to landscape design the terms 'art', 'landscape' and 'design' are avoided for the moment, with the focus put on the essential differences implied by each trajectory, leading to a reformulation into the terms *garden* and *territory*.

Given that the focus is on fundamental aspects of designed landscapes – and that a review of designed landscapes from prehistory to the present day plainly exceeds the scope of this discussion – the research limits itself to a consideration of the prototypical gardens and territories from antiquity demonstrating the principals characteristics (and differences) of both traditions. Furthermore, the differences and similarities between designed landscapes and designed buildings from the literature offer a useful framework for the discussion of garden and territory. Reflecting on the differences between landscape architecture and architecture, Leatherbarrow (2004) notes that a fair degree of abstraction is required to accept that the two disciplines are the same thing when one looks at the differences of (construction) materials, modes of production, scale and programme specific to each art. These four aspects present a useful schema to discuss garden and territory as backgrounds for elaborating on composition in landscape architecture.

### 2.1.1 (Garden) Materials

Corner (1992) offers an introduction for Leatherbarrow's first disparity by noting that "... the landscape and its constitutive elements – stones, plants, water, earth and sky – when artfully composed – have provides humans with some of the most sacred and powerful places of embodied meaning."[44] These materials can be noted in the earliest gardens of antiquity. A painting of an Egyptian garden found in the funerary chapel of Sennufer [c1400BCE] depicts a garden surrounded by a high mud wall, a central vine-shaded courtyard lined by palm trees, and four small garden pools filled with flowers and birdlife [Figure 2.1]. Life seems to bursts from the image, a condition echoed by the biblical story of the Garden of Eden. Genesis 2:8-10 (King James Version) reads: "And the Lord God planted a garden eastward in Eden; and there he put the man whom he had formed. And out of the ground made the Lord God to grow every tree that is pleasant to the sight, and good for food; the tree of life in the midst of the garden and the tree of knowledge of good and evil. And a river went out of Eden to water the garden; and from thence it was parted, and became into four heads."[45] The first three of Corner's materials is embodied in this account; the others – stone, wood and light - form, together with plants, earth and water, the material ingredients of the gardens of antiquity, from East Asian gardens of Egypt and Persia to West Asian and Islamic gardens and classical Greek and Roman gardens.

44 Corner, 1992, p. 146.

45 The Bible (King James Version), 1769.

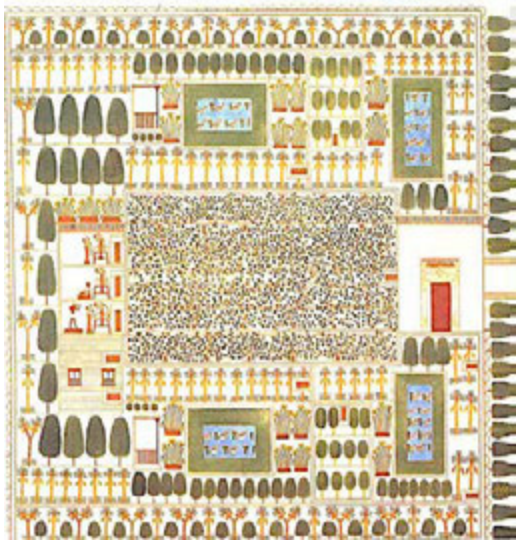


FIGURE 2.1 Planometric projection of Sennufer's garden, c.1400 B.C.E., 18th Dynasty, paint on plaster, Thebes, Egypt (Image source: unknown).

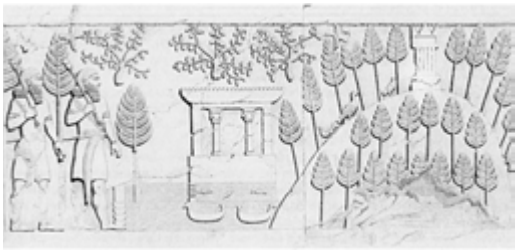


FIGURE 2.2 Garden of Sargon II at his new capital Dur-Sharrkin. (Image source: P. E. Botta and E. Flandin, Monument de Ninive II (Paris, I849), pl. I4).

### 2.1.2 (Territorial) Materials

Significantly, Sennufer's garden is depicted in plan view, with buildings and trees drawn in elevation but placed in plan position. This two-dimensional representation underlines how the garden is a topographical activity, the organization of a part of the earth's surface for a particular purpose. But whereas act of gardening is necessarily 'grounded', it doesent always bear a direct relationship to the characteristics of that ground. The orthographic plan of Sennufer's garden is largely defined by organizational principles of use, culture and climate, and less by the delineations of site. The imperative of location however, does apply to territorial design. Details from the relief sculptures of Sargon II [722-704 BCE] indicate how site features informed the composition of a design for the landscape (gardens) for the new capital Dur-Sharrkin. A small altar stands on the top of a hill in a grove of fragrant pines, while at the foot of the hill a pillared pavilion stands in an artificial lake backed by fruit trees [Figure 2.2] Dalley (1993) notes that the style of this garden is naturalistic, contrasting to the abiding geometric layout of the Persian garden; the slopes, artificial lake and pavilion were first and foremost contrived to create a more interesting landscape from what was already there.[46] This kind of garden informs a critical step towards territory and territorial design as prototypical 'trajectory for landscape architecture. As such, Sargon's gardens exemplify a design praxis focused on an accentuation of the existing; a discovery of what lies hidden in a place and a disclosure of its 'treasures'.

46 Dalley, 1993.



FIGURE 2.3 Scene of gardener using a Shaduf, an ancient Egyptian machine (lever) used for moving water from river to bank. Tomb of Ipuy at Deir-el-Medina, West bank of Thebes, TT217. (Image source: unknown).

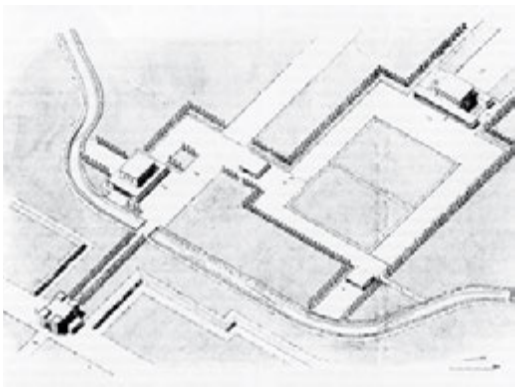


FIGURE 2.4 Reconstruction of Pasargadae. (Image source: Fr. Krefter. 1983).

### 2.1.3 Modes of Production (in the Garden)

Insofar as the materials of garden design are living, erodible or perishable, we can also contend that the garden is a very different form of 'architecture' to that of the building. To design a garden is to work with the growth and decline of living organisms and the capriciousness of natural materials, with the seasons, and with the change of light and shadow, aspects which make garden design one of the most transient and dynamic of the arts.[47] The essence of a garden then, as compared to a building, resides in the way nature is understood and expressed by its maker, and at the same time in how gardens represent the *nature* of the society to which their makers belong.[48] By extension, the 'artful composition' of materials illustrated by the garden of Sennufer reflect the interplay between nature and man, a duality that informs a subtle but important difference between designed landscapes and buildings, best expressed as a distinction between *cultivation* and *construction*. Whereas the composition of a building is determined by the demands of construction and edifice that defends against natural forces, the garden is about collaboration with nature. As Leatherbarrow puts it, "... roofs resist rain, artificial lakes love it; the first suffers climate, the second engages its operations."[49] Constructing a garden is therefore something very different to constructing a building, whereby the gardener engages earth, water and biotic elements using the technological means of the day [Figure 2.3]. At the same time however, cultivation (in the garden) remains a located and organized activity, and therefore a formalized condition. Cultivation also posits narrative and invention as central to garden art. Raxworthy (2013) proposes that a gardeners' actions are a mindful participation and collaboration with plants and the other elements of the garden, creating a link between human activities and "novelty-producing processes".[50]

47 De Jong & Dominicus-van Soest, 1996.

48 Clifford, 1962.

49 Leatherbarrow, 2004, p. 61.

50 Raxworthy, 2013, p.189.

## 2.1.4 Modes of Production (in the Territory)

The condition of cultivation can be expanded to the scale of a landscape, whereby techniques of horticulture and engineering are deployed on a territorial scale. The Assyrian king, Assurnasirpal II (883-859 BCE) describes waterways he had built from nearby mountain streams to irrigate orchards in Nimrud in present-day northern Iraq, as well as the plants he introduced from abroad:

*I dug out a canal from the Upper Zab, cutting through a mountain peak, and called it Abundance Canal. I watered the meadows of the Tigris and planted orchards with all kinds of fruit trees in the vicinity. I planted seeds and plants that I had found in the countries through which I had marched and in the highlands which I had crossed: pines of different kinds, cypresses and junipers of different kinds, almonds, dates, ebony, rosewood, olive, oak, tamarisk, walnut, terebinth and ash, fir, pomegranate, pear, quince, fig, grapevine ...'*

Excavations at Pasargadae in present-day Iran have uncovered a system of limestone channels including a pool-like construction which would have acted as a channel, drawing water from the nearby Pulvar River. The channels formed part of the organization of spaces between the central Palace building and two smaller structures, a geometrical layout not unlike what would become the classical Persian garden [Figure 2.4]. This elaborate and sophisticated hydrological network informs a central aspect of the 'mode of production' of the territory: its situation. In this example the climatic, geographic and topographic deliniations of the location establish both the requirement of the scheme (fruiting trees and water), and the manner in which they are elaborated.

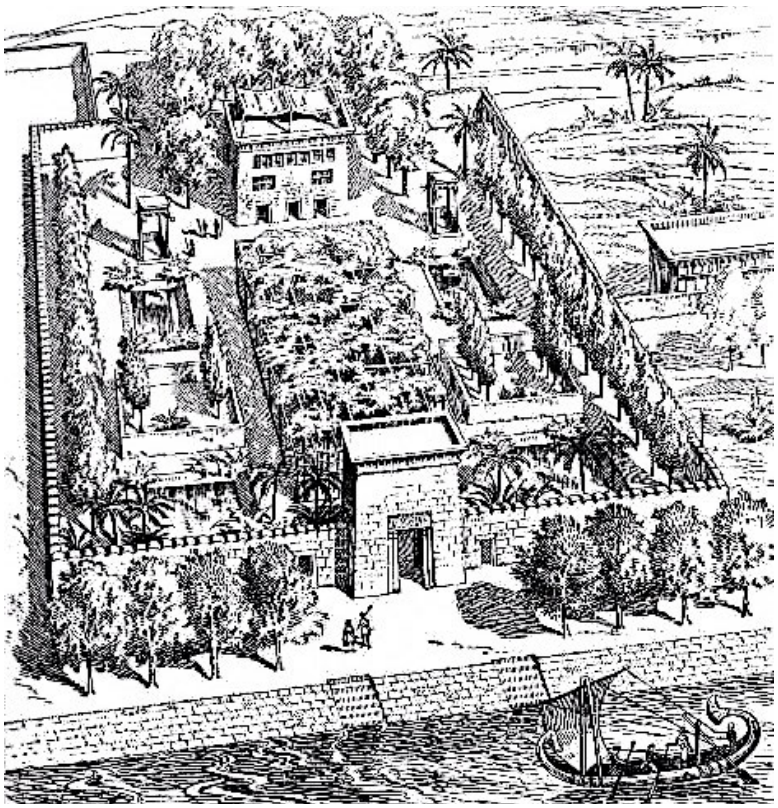


FIGURE 2.5 Bird's-eye impression of Sennufer's garden, Thebes, Egypt. (Image source: unknown).

### 2.1.5 Scale (in the Garden)

A third disparity - the scale of a designed landscape versus that of a building – may in the first instance be parried by the argument that gardens are, similar to buildings, designed to a human scale. In a bird's-eye view impression of Sennufer's garden a tree canopy extends through the garden, providing shelter from the elements and forming an oasis-like environment for its occupants in the otherwise barren and open landscape [Figure 2.5]. Sennufer's garden is also critically defined by the surrounding spatiality of the territory. The scale of the garden is therefore innately connected to the immensity of landscape, forming a duality of measured-ness and immeasurability, of sanctuary and exposure. This duality backdrops landscape archetypes that have engendered garden archetypes through the ages. Aben & De Wit (1999) contend that the oasis (and the clearing in temperate climates) emulate naturally occurring landscape spaces, and suggest that these two archetypes form leitmotifs for gardens from antiquity to the present day. These archetypes work as *counterpoints* to their territorial context: the oasis as cool, shaded, watered, and fruiting environment in an inhospitable desert, and the clearing as an open, sunny space in a dark impenetrable wilderness, where animals can graze.[51] The scale of landscape design in the garden moreover, is also different to a building through the centrality of movement. In Sennufer's garden visitors arrived by boat along a canal, passed through a gate lodge and entered a central vine-shaded courtyard. To enter the main house, they needed to cross the courtyard, or take other paths through the plantations to arrive at the water pools and other lodges areas. Movement is therefore integral to the layout; indeed the garden (composition) necessitates movement to access and understand it. By extension, Leatherbarrow (2004) notes that time is the medium of experience of landscape, as a terrain is only known fully by virtue of spatial passage across it.[52]

### 2.1.6 Scale (of the Territory)

The difference in scale of landscape design as compared to that of architecture emerges unequivocally in the trope of territorial designs, with ancient examples such as the legend of Mount Athos highlighting the difference between large-scale landscape works and architectural works. In this legend, the architect Dinocrates proposes to Alexander the Great the transformation of the mountain into the figure of Alexander himself [Figure 2.6]. The king is flattered by the grandness of the project, but wisely rejects it on practical grounds, an event which many architectural commentators have since referred to as the first (but not last) demonstration of hubris in architectural psychology.[53] Dinocrates' idea persisted as a powerful image, likely inspiring works such as the carving of the faces of American presidents into Mount Rushmore by Gutzon Borglum between 1927 and 1941. Another criticism is the focus of discussion here however: that of the scheme in relation to abiding ideas of (architectural) composition. In his preface to book 2 of *De architectura*, Vitruvius reproached Dinocrates' scheme for what he contended was an offence against the harmonies that inform architecture: the symmetry and proportionality of the human body. But Vitruvius' criticism also (inadvertently) reveals the 'otherness'

51 Aben & De Wit, 1999.

52 Leatherbarrow, 2004.

53 Schama, 1995.



FIGURE 2.6 Mount Athos Colossus. (Image source: Fischer von Erlach, 1721).

of the project as compared to architecture, and the need to address the composition of a territory from a fundamentally different perspective. He describes how the plan was to carve Mount Athos "into the figure of a statue of a man", whereby Dinocrates sketched "a very extensive city" in the figure's left hand, and in its right hand "a bowl to receive the waters of all the rivers which are in that mountain."[54] What Vitruvius effectively describes is a shift from a formal understanding of an (architectural) composition to a dynamic arrangement of natural and man-made features on an enormous scale. The choice of the figure of the king in that sense may be read as a metaphor for a functioning holistic entity with its own territorial form and structure, rather than an attempt to work cosmic human proportions into a design. The notion of composition presented by Dinocrates is thereby re-framed by the specifics of the place (a mountain) and its scale (territorial).

### 2.1.7 Programme (of the Garden)

A final disparity is the programme of landscape architecture as compared to the programme of architecture. In the garden this difference begins with the axiomatic purpose of the garden as enclosure for specific intent. Sennufer's garden is surrounded by a high mud wall, and lined inside by a row of sheltering palm trees. The English term *garden* borrows from the Old North French *gardin* and the High German *garten* from *gart* enclosure, yard; cognate with the Old Saxon *gard*, Old English *geard,* Old Icelandic *gardhr,* and Gothic *gard-s,* all with the meaning of enclosure.[55] This etymology

54 Vitruvius, translation 1999, p. 73.

55 Barnhart, 1988.

indicates the practicalities intended by the enclosure: to create a space for human purposes by keeping animals and other utilitarian claims away from a piece of land. What these human purposes in effect are however, has evolved from garden type to garden type. Steenbergen (2008) notes that programme in the garden differs from architecture in that it is about a combination of "cultural expression, meaningful encounters with nature, and economic benefit."[56]

### 2.1.8 Programme (of the Territory)

At a territorial scale, the 'programme' of a designed landscape expands to include a theoretically infinite range of programmes, depending on, and inter-related to, the context and conditions of the site. In the example of Mount Athos, the waters in the Alexander's left hand implicate the products and processes of nature as part of the design assignment, a detail expanded on by Fischer von Erlach in his engraving, in which not only rivers form part of the design, but also forests and pastures as resources to house, warm and feed the city's population in the king's left hand. As Schama (1995) keenly points out, the intention of this proposal is not so much a 'Hellenic Rushmore' but a "design for an entire habitat".[57]
As such, the example of Mount Athos sketches the contours of a praxis involving the composition of physical features *in relation* to the particular systems and processes that have formed the territory. The two cannot be seen as seprate from each other; the shaping of the territory must engage the natural 'machinery' of the mountain, as must the processes engage with the exceptional form they are confronted with. In this we can note too that the composition proceeds from an innate union of figure and mountain, whereby the form of mount Athos, with its characteristic profile, seems to have 'called up' the figure itself. In this sense the compositon of a territory becomes *all about* the context and conditions of the site, and their translation to form.

### 2.1.9 Conclusion

The 'trajectories' of garden and territory elaborate fundamental aspects of designed landscapes that distinguish them from other products of spatial design (such as buildings). As such, they build a first footing to elaborate on composition in landscape architecture, as distinct to composition in other fields. As fundamental 'source codes' for landscape architecture, they also frame a consideration of the emerging diaspora of perspectives on the discipline (provisionally summarized as site, process and form). Reading and writing the characteristics of a site is a fundamental aspect of both garden design and territorial design. Similarly, the engagement with temporality and ephemerality manifest in the garden, and the 'deep-time' processes at work in the shaping of territories, underlines process-based thinking. At the same time, the garden design tradition elaborates aesthetic and experiential aspects particular to a formal-material undersanding of landscape design. As such, the 'pedigree' of the discipline in the traditions of garden and territory initially frames all three approaches as fundamental and inclusive to the discipline.

56 Steenbergen, 2008, p. 14.

57 Schama, 1995, p. 402.

## 2.2 Landscape & Representation

How these perspectives extend into an elaboration of landscape design-as-composition praxis is further informed by a discussion of the term landscape itself, and the related role of images and representation in design praxis in the modern period. How does the notion of composition fit with landscape as definition and idea, and how might new iterations of landscape inform a revision of composition-based design praxis?

In contemporary culture, the term landscape is used to denote a unique combination of natural features (hills, forests, water, etc.) that distinguish one part of the earth from another.[58] Reflecting on the etymological origins of the term, Vroom (2006) proposes that "the combination of 'land' and '-scape' indicates an area, an expanse, a space, that has been created or shaped, is visible as such, and therefore can be represented."[59] This interpretation also correlates to professional definitions, whereby landscape is understood as being "an area, as perceived by people, which character is the result of the action and interaction of natural and/or human factors".[60] Kolen & Lemaire (1999) note the significance of the duality of land and perception in revealing the term as meaning more than just an 'environment' or 'nature', but also the ordering of things by human (inter)action, in particular the view.[61] The English philological definition of the term 'landscape' correlates to this iteration; the Oxford English Dictionary (1989) defines landscape as "All the visible features of an area of land, often considered in terms of their aesthetic appeal." Jackson (1984) reminds us however, that when the term was first introduced it did not mean the view itself, but a picture of that view.[62] The word 'landscape' (from the Old English landskip and subsumed into English from the Dutch landschap), was a term that denoted a particular genre of painting depicting natural scenery.[63] Elaborating on the complex evolution of landscape painting exceeds the scope of this discussion, but what is relevant here is that Dutch and Flemish painters in particular, played a central role in the emergence of a genre in which the background to the subject of a (portrait) painting developed into a separate genre in the modern period [Figure 2.7]. Reflecting on these etymological origins, Cosgrove (1984) challenges the suggestion that landscape may be used to mean 'land', 'area' or 'region' at all, arguing that there can be no double definition of ordering plus view in 'landscape', only an active and necessary engagement of the human subject with the material object; "In other words the term landscape denotes the external world mediated through subjective human experience in a way that neither land, region nor area immediately suggest."[64] The implications for a design praxis bearing the name landscape is therefore by definition the conception and production of an 'imageable' environment. By extension, we can conclude that landscape is not merely the world we see, it is a way of 'seeing the world', i.e. is a construction, a composition of that world. We may therefore contend that composition is a pivotal notion in the concept of landscape.

58 Schama, 1995.

59 Vroom, 2006, p. 177.

60 Council of Europe, 2000, p. 2

61 Kolen & Lemaire, 1999.

62 Jackson, 1984.

63 Barrel, 1972.

64 Cosgrove, 1984 p. 13.



FIGURE 2.7 Maria Magdalena (detail) by Rogier van der Weyden, ca. 1450. (Image: the Louvre, Paris).

### 2.2.1 The Landscape-is-Image Paradigm & Designed Landscape Composition

Insofar as landscape implies a bringing together of things into a composition of the world, informed by an image of that world (whereby a painting and a design drawing of landscape are considered equal), composition can be said to be also a central notion in landscape design. That an interpretation of the term composition arises through the mediation of an environment via an image is central to the development of designed landscape compositions in the modern period. Corner (1999) underlines Cosgrove's argument on the interrelationship of subject and object, going a step further to contend that "without the image there can be no landscape."[65] The relationship between the (painted) image and designed landscapes is noted by others, in particular in the landscape gardens of the seventeenth century. Jackson (1984) reflects that many seventeenth-century garden designs were particularly picturesque compositions of agreeable natural features such as groves of trees, meadows and water features, compositions that may have differed from landscape paintings in that they were three-dimensional and covered large areas, but were nevertheless composed in 'painterly' ways.[66] Perhaps the best example of this approach is the work of William Kent from the eighteenth century, who based his designs on landscape drawing and painting, as well as theatre [Figure 2.8].[67] The persuasion in the critique of the work of Kent and others, is that with the appearance of landscape painting, the scenic 'migrated' to the land itself in the form of designed estates and gardens, whose composition emulated conventions of landscape painting. As such, the sub-text to these reflections is a critique of a landscape design as stylistic praxis, as compared to an 'infrastructural' praxis (which will be returned to later).

But while a painterly composition might resonate with a stylistic preoccupation of the painted image, this does not necessarily disqualify an arrangement of spaces and features that may have painterly qualities. Indeed the composition of landscapes certainly predates landscape painting itself; the shaping

65 Corner, 1999, p. 153.

66 Jackson, 1984.

67 Hunt, 1987.



FIGURE 2.8 Design by William Kent for a cascade in Stand Wood, Chatsworth, c.1735–40 (Image: Devonshire Collection, Chatsworth).

of the physical features of the territory is as old as human existence.[68] As such, the landscape architect gives form to three-dimensional landscape space via a conceptualization of that space in the process of design, a practise that may appear to resemble the creation of an (landscape) image, but is in fact a different activity in that it involves a conceptual projection of a future reality to be constructed. Corner (1992) reminds us that a landscape design is drawn up before the landscape is created, as compared to a painting, which follows the landscape.[69] This conceptual activity involves the placement of landscape features into a spatial arrangement that determines the organisational structure of a territory, and influences aspects of use, structure, visibility and orientation. Interrelated to the physical form is the *appearance* of the physical space, its visual reality to the subject. The visible form is a result of what we perceive with out senses (especially sight), and is linked with the sequential unfolding of information as our bodies pass through space.[70] Therefore while the end result may have indeed painterly qualities, the proper intention is in fact the creation of a physical environment which can be 'seen' from a theoretically infinite number of angles, and moreover experienced in the 'fourth dimension' by moving through it.

68 Pregill & Volkmann, 1999.

69 Corner, 1992.

70 Frankl, 1968; Psarra, 2009.

### 2.2.2 Representation, Conceptualization & Composition

In considering composition in relation to the landscape-is-image paradigm further, the tools used to create the landscape image and associated developments of representation and drawing in landscape architecture are also of critical relevance. Evans (1997) notes the subtle but important difference between the (architectural) design drawing and other pictorial arts, in that it is not done *after* the subject but *before* it. The same applies to landscape design, whereby the development of landscape architecture as a profession derives from an impulse to shape large areas of land according to prior imaging.[71]

From the outset, construing and constructing an image of a landscape was interrelated to the development of (spatial) representation. Essential to the development of landscape painting was the technique of perspective, developed by Renaissance artists such as Leonardo da Vinci, whereby a 'scientific method' for painting imitated the way our vision constructs reality [Figure 2.9]. The representation of territorial space using perspectival techniques can be seen as a technical development that *enabled* an emerging consciousness of the world of Renaissance man.[72] The instrumentality of the perspective is noted by Lemaire (1970) who contends that with the perspective, medieval man in fact 'became modern' by exorcising the outside world, giving it its own form so that he could become conscious of his as individual. In this process the technique of perspective must also be seen as not so much a cause or development, but a conscious *choice of method* to see and order territorial space. What emerges in this development is a series of representational tools that allow the *reverse construction* of an image of an area of land into landscape; in other words, the tools to compose the landscape, that may become a (painted) image. In this sense the plan, elevation and perspective gave the designer tools to fully conceptualize a landscape composition for the first time. And while these tools lead to a reduction of reality that eluded the full complexity and experience of landscape, it nevertheless allowed a visualization of conditions and possibilities for an existing territory that was hitherto unachievable. To draw is therefore to conceive, and by extension to conceive is to compose.

The repertoire of spatial design visualizations (projections of three-dimensional landscape space onto two-dimensional paper) arising in the modern period is diverse, but its dominant conventions were the ground plan, the elevation, the section, the axonometric and the perspective. These projections in turn, draw on classical examples of *ichnographia* (ground plan), *orthographia* (elevation) and *scaenographia* (perspective).[73] Using these techniques allowed Renaissance man to understand and order the world in a new way, thus positing architectural representation as the dominant convention in elaborating spatial (landscape) designs. Designed landscapes making use of principles such as geometry and perspective began emerging in the early sixteenth century, when prosperous citizens started building villas with extensive gardens on the less populated islands of the Venetian lagoon system and around Tuscan cities, the so-called *villagiatura*. Designs for the *villagiatura* emerged with the use of the perspective, whereby a birds-eye view projected a plan view in three dimensions. Arrangements of forms and spaces in plan could thereby be conceptualized and 'proofed' before construction, a process whereby the perspective effectively elevated the (site) plan to a level of central importance in the design process.[74] One of the few remaining drawings of this period is by the architect Antonio Gaspari, who prepared

71 Corner, 1992.

72 Lemaire, 1970.

73 De Jong, 2008.

74 Van der Ree, 1988.

a design for house, garden and game reserves for the Villa Sagredo in the Veneto around 1700. The design is a plan drawing based on an arrangement of geometric forms: circles, ovals, squares and right angles [Figure 2.10]. Reflecting on Gaspari's work, De Jong (2008) concludes that the step from intervening on site without a plan to conception of a landscape in a drawing, can be equated with the step from 'gardener' to 'garden designer'; whereas the creation of the landscapes of antiquity proceeded via interventions on a site without survey or plan, the modern period was characterized by a developing repertoire of drawings used to map a site and conceive a landscape design.

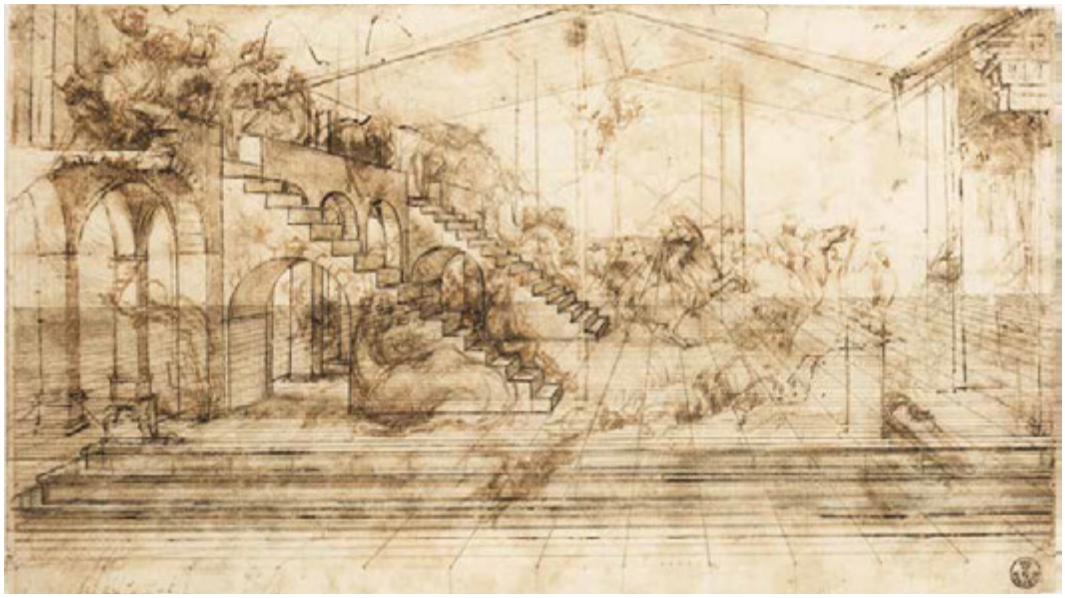


FIGURE 2.9 Study for the Adoration of the Magi by Leonardo da Vinci, circa 1481. (Image: Prints and Drawings Department at the Uffizi, Florence).

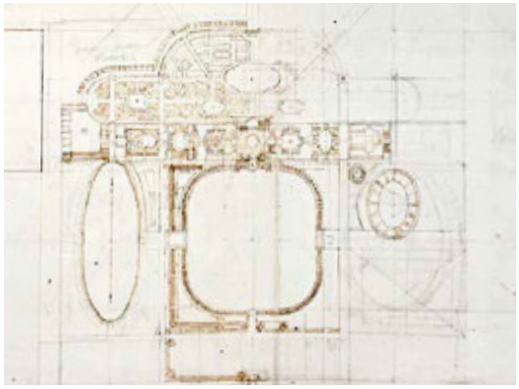


FIGURE 2.10 Design for the garden of Villa Sagredo by Antonio Gaspari, circa 1670-1730 (Image: Musei Civici Veneziani).

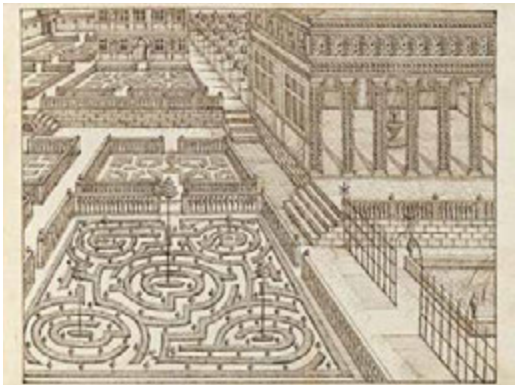


FIGURE 2.11 Plate 34 from: Nützliches Khünstbüech der Gartnereij. By Hans Puechfeldner, circa 1595. (Image: Dumbarton Oaks Research Library, Washington, DC).



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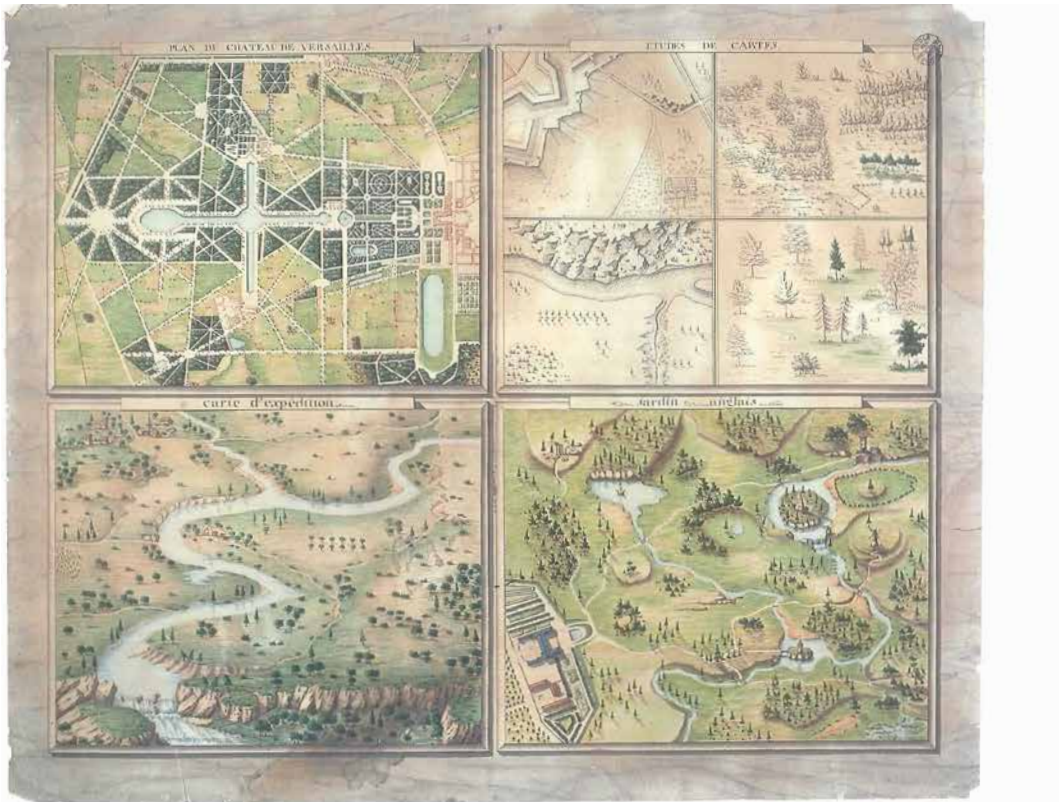



FIGURE 2.12 Ground Plane of Versailles (top left), Expedition map (bottom left), Study map (top left) and Landscape park (bottom right) undated, circa 1790. Anonymous student at the École Nationale des Ponts et Chausseés. (Image: Marné la Vallée, École Nationale des Ponts et Chausseés, Fonds Ancien).

### 2.2.3 (Architectural) Drawing Conventions for Landscape

Plan, section, elevation axonometric and perspective however, have their limitiations when it comes to elaborating materiality, spatiality and temporality of designed landscapes. This is demonstrated by the work of Hans Puechfeldner, gardener to the Habsburg emperor Rudolph II, whose garden design drawings exemplified representational developments in the use of architctural representation [Figure 2.11]. Puechfeldner's elaborate one-point perspectives - inspired by the influential Brussels gardener Hans Vredeman de Vries - demonstrated his ability to conceive unique territorial spatial arrangements, but his compositions express little of the natural material components of the garden however, nor of site characteristics that might underline or surround it; the composition could be anywhere. Likewise, aside from an indication of passages of movement along a central axis, the drawings do not capture the dynamic or atmospheric nuances of landscape space. In this case, new techniques of representation may have turned the gardener into a designer, but many of the distinctive aspects of landscape design were left out in the process.

The limitations of the architectural drawing to handle the spatiality, temporality and materiality of designed landscapes forms one of the backdrops for the case for critiquing composition-based praxis as a template for landscape design. By extension, an underlying assumption in critique is that the notion of composition originates from – and is cultivated by – the culture of architecture. An



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FIGURE 2.13 Les Tres Riches du Duc de Berry 1412-1416. July: The shearing of the sheep. The Limburg brothers, (Image: the Musée Condé, Chantilly, France).

alternative position can be advocated however, whereby an expansion of the repertoire of architectural drawing encompasses the particularities of (designed) landscape. Such a repertoire has already begun to reveal itself in the course of the modern period moreover, including hybrid forms and conventions attempting to depict aspects of landscape that elude the architectural drawing. De Jong, Lafaiille & Bertram (2008) trace the development of representations of landscape design in the publication *Landscape of the Imagination*, which catalogues important drawings, figures and sketches by gardeners, architects, surveyors, engineers, and town planners. In their overview, they note for instance a moment at the end of the eighteenth century when a new type of landscape design drawing emerges parallel with the introduction of the term *architecte-paysagiste*.[75] These drawings do not restrict themselves to plans elevations and sections, but explore other forms of visual representation of territories [Figure 2.12]. Particular in these forays is the agency of mapping as an activity engaging with the particularities of a location, and at the same time an exploration of possible interventions to the territory.[76] In this the map contrasts to architectural drawing conventions emerging from enlightenment paradigms, which saw the plan as embodying rational self-contained ideals, and sites as neutral, non-particular surfaces. In reflecting on the revival of mapping in contemporary praxis, Corner (1999) outlines its new and expanded agency:

*"The capacity to reformulate what already exists is the important step. And what already exists is more than just the physical attributes of terrain (topography, rivers, roads, buildings) but includes also the various hidden forces that underlie the workings of a given place. These include natural processes, such*

75 De Jong et. al., 2008.

76 Ibid.



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*as wind and sun; historical events and local stories; economic and legislative conditions; even political interests, regulatory mechanisms and programmatic structures. Through rendering visible multiple and sometimes disparate field conditions, mapping allows for an understanding of terrain as only the surface expression of a complex and dynamic imbroglio of social and natural processes."*[77]

### 2.2.4 Beyond the Landscape-is-Image Paradigm

These alternative modes of representation parallel new insights into the origins of the term landscape at the end of the modern period, which inform a criticism of the landscape-is-image paradigm with consequences for the repertoire and agency of landscape architectural composition. Out of the complex etymological origins of the term landscape, the Old German landschaft offers an alternative iteration of the term. Landschaft precedes the English landskip (and the Dutch landschap), and refers not to a pictured scene but to the environment of a working community made up of dwellings, meadows and fields, including the obligations to one another and to the land.[78] Submitting panels from Les Tres Riches du Duc de Berry by the Limburg Brothers as illustration, Corner (1999) backs up this proposition by showing that while this form of landscape may be picturable, its essence is in fact not statically visual but rather social and ambient, and structured through use and habit in time [Figure 2.13]. Corner goes on to draw attention to two different understandings of landscape, one being "landscape as objectified scene" and the other a "working country as habituated place", whereby in the former the subject stands at a distance, passive and observing, while in the latter they are fully immersed in their milieu; to be immersed in a milieu is to become one with it – to be an "Insider", whereas the beholder always remains an "outsider".[79] From the perspective of the 'insider', Cosgrove (1984) notes "the composition of their landscape is much more integrated and inclusive with the diurnal course of life's events – with birth, death, festival, tragedy – all the occurrences that lock together human time and place. For the insider there is no clear separation of self from scene, subject from object."[80] Resonating with this line of reasoning, Jackson (1984) follows up the treatise on landschaft by identifying two (western) understandings of 'landscape' through history: 'Landscape One' as the medieval connotation (landschaft = a territorial or political unit), followed by 'Landscape Two' as a romantic concept of landscape (landschap = scenery) in the modern period. This last concept Jackson rejects for not creating a "concrete, three-dimensional shared reality."[81] Jackson is also critical of 'Landscape One' however, and settles on a new formulation (Landscape Three) understood as "a composition of man-made spaces on the land". In this formulation landscape is a "synthetic setting" in which an organization or system "speeds up or slows down the processes of nature."[82] The term synthetic is important here, in that it describes a mode of praxis in which engineering and design share a similarity of purpose in the composition of man-made spaces to serve as infrastructure and

77 Corner, 1999, p. 214.

78 Jackson, 1984; Stilgoe, 1982.

79 Corner, 1999, p. 12.

80 Cosgrove, 1984, p. 19

81 Jackson, 1984, p. 4.

82 Ibid., p. 7.

background to our collective existence.[83] From the perspective of designed landscape praxis, the deeper implication of this conception of landscape is to actively re-connect territories to cultural practises, and thereby providing a basis for rootedness and a new sense of belonging.[84] Composition in this sense entails not only an imposed aesthetic view but also the orchestration of a set of systems, processes and practises interacting together in a particular territory.

## 2.3 Expanding On Composition

A next step to elaborate on composition in landscape architecture is a discussion of the lexical definition and etymology of the term composition itself. As the example of Westergasfabriek from our introduction hints at, alternative and expanded understandings of composition may differ to prevailing understandings of the term such as in the visual arts. These reflections include the notion of a 'composite whole' that is more the sum of its parts, and the integrative and synthesizing agency of landscape design.
From a lexical perspective, the Oxford English Dictionary (3rd Edition) lists four definitions for composition:

1 *The nature of something's ingredients or constituents; the way a whole or mixture is made up.*
2 *A creative work, especially a poem or piece of music;*
3 *The preparation of text for printing by setting up characters or by establishing its style and appearance electronically.*
4 *A legal agreement to pay a sum in lieu of a larger debt or other obligation;*

Given that the last two definitions are unrelated to composition in respect to design, I continue with a discussion of the first two definitions. The second definition of composition - *a creative work* - appears in the first instance to resonate best with landscape architecture as creative praxis. As seen in the introductory section on the garden as prototype, landscape architectural productions are creations of land and water, plants and stone, colour and light. As the most evident interpretation of the term then, the idea of composition as being about a creative work - whereby the term *work* implies a finished product or object – backgrounds criticism of composition-based praxis as being limited to the physical-material form of a designed landscape (instead of a dynamic, process-based understanding of landscape design). Grounds for this criticism also arise from the earlier discussion on the materials of garden creation. Plants grow, flower, lose leaves (and bark and limbs) and eventually die; water flows, fluctuates, evaporates, and even disappears; light changes hourly, daily and seasonally, and is influenced by the dynamic characteristics of plants and water; and even the more permanent features of a landscape work – landform, stone and wood – eventually erode, break up or rot away. A similar criticism arises from the notion of territory, as well as the discussion on landscape. Given that landscape is a broad-brushed concept subject to a range of interpretations (such as a systemic schema of interacting forces), a preliminary conclusion could be that composition is a problematic concept for landscape architecture.

This is not the only lexical definition of composition however. The second part of the first definition of composition - *the way in which a whole or mixture is made up* - resonates in a wholly different way

83 Ibid., p. 7.

84 Cosgrove, 1984.

with the praxis of landscape architecture as a *creative work*. Firstly, it reflects the 'composite whole' and 'synthesizing agency' of landscape design observed in the Westergasfabriek scheme, which is also confirmed by related observations on landscape design praxis. As noted in the introduction, this iteration resonates with the etymology of the word *composition* from the Latin compositiōnem (nominative *compositiō*), the act of putting together, connecting; from compōnere, put together, arrange.[85] That landscape architecture can be considered as a 'putting together' of various aspects, resonates with an understanding of the discipline as being about comprehensiveness and integration, attributes that can be traced to the combination of various types of knowledge and skills that gravitated towards the profession in the modern period. The social, cultural, scientific and technological developments of the eighteenth century in particular, gave rise to a growing number of specializations brought (and drawn) to the challenges of landscape design, such as civil engineering, surveying and mathematics, agriculture, horticulture and botany, as well as architecture and the arts.[86] These competencies illustrate the more fundamental constituents of landscape architecture, such that what at first may appear as an artistic creation of land, water, plants, stone and wood, is also (or instead) the informed modification of natural land formations, hydrological, infrastructural and vegetative systems and features, directed towards various goals: environmental, horticultural, agricultural, social etc. This iteration of composition correlates to the first part of the first definition of composition - *the nature of something's ingredients or constituents*. In respect to designed landscapes, composition in landscape architecture implies not only the basic material substance of a design (earth, plants, water, stone and wood), but also more fundamental aspects such as the territorial, technical, social and cultural content of a design scheme. This expansion of the *content* of a designed landscape is related to the evolution of landscape architecture noted above. As early as 1803, Jean-Marie Morel (1728-1810) proposed the term *architecte-paysagiste* to describe a broadly-skilled expert in landscape Meason (1769-1832) entitled *On the Landscape Architecture of the Great Painters of Italy* published design.[87] Shortly afterwards, the English term *landscape architect* appeared in a book by Gilbert Laing in 1828.[88] The first practitioner to use the term was William Andrews Nesfield (1794-1881), followed by practitioners in the United States, notably Frederic Law Olmsted (1822-1903) and Calvert Vaux (1824-1895) in their submission for the design competition for Central Park in New York in 1858.[89] The motivation to invent a new term reveals the expansion of the instrumentation of landscape design in the eighteenth century, as compared to the preoccupations of (garden) design in the centuries before. Already in the early the eighteenth century, Humphrey Repton (1752-1818) made an appeal to broaden the scope of landscape design to include scientific and cultural dimensions, as well as social landscapes in urban settings.[90] This appeal was also a response to societal developments and changing religious, political and aesthetic ideals. Morel combined many of these specializations in one: he was trained as an engineer and geographer, schooled in geology and topography, hydrology and vegetation, and also understood cultural aspects of landscape such as agriculture, forestry and settlement forms. These competencies demonstrate a shift from the stylistic preoccupations of the garden designer to locational, infrastructural, operational, and experiential aspects of landscape design.

85 Barnhart, 1988.

86 De Jong, 2008.

87 Disponzio, 2002;

88 Turner, 1990.

89 Ibid, 1990.

90 Antonetti, 2012.

One of the earliest examples of the expanded scope and instrumentality of this new discipline is the Dessau-Wörlitz Gartenreich, created between 1760 and 1800 by Leopold Freidrich Franz von Anhalt-Dessau [Figure 2.14]. The re-design of this 142km2 domain proceeded along the lines of *landesverschonerung* [land beautification], which combined knowledge, experience, production and economy with ideals of religion, morality and beauty, in relation to topography, soil, hydrology and climate.[91] Landscape design was also seen as an agent of social and cultural reform integrating innovations in the arts and engineering, as well as agriculture, horticulture and forestry. A central feature of the scheme is the integration of new technology such as in the building of bridges, and new farming methods. As such, the Dessau-Wörlitz Gartenreich is an expression of the enlightened outlook of the royal court, in which landscape became the idealized world of its day, forging a new kind of environment that combined thinking and making, measuring and designing, taste and appreciation, technology and art, history and future [Figure 2.15].[92] The merger of these various aspects also led to the appearance of new and original territorial reality: the landscape park. This new 'reality' echoes the etymology of the term *composition*, in particular the Latin *compōnere*, the putting together of different things; in this case landscape design as a synthesizing activity integrating agricultural, hydrological, cultural and aesthetic aspects. As such, the multi-dimensional – and integrative - agency of landscape architecture evidenced in projects like Westergasfabriek can be said to have its pedigree in the eighteenth-century landscape park. A critical parallel development to the Dessau-Wörlitz Gartenreich and the emerging discipline of landscape architecture was the work of Alexander von Humboldt, a Prussian geographer, naturalist, and explorer. Humboldt travelled through Latin America between 1799 and 1804, describing this landscape as a complex interconnected milieu of earth, climate, biota, and human activity. His description of the journey, published in his multi-volume treatise Kosmos, also mooted the unification of diverse branches of scientific knowledge. This work motivated a holistic perception of the universe as one interacting entity, and paved the way for the development of other interdisciplinary fields such as biogeography and indeed the entire movement of ecology.[93]




FIGURE 2.14 Commemorative Postage Stamp Gartenreich Dessau-Wörlitz (Serie "Weltkulturerbe der UNESCO"), 55,0 mm × 32,8 mm, First issue May 2002 (Image: Hannelore Heise for Deutschen Post AG).

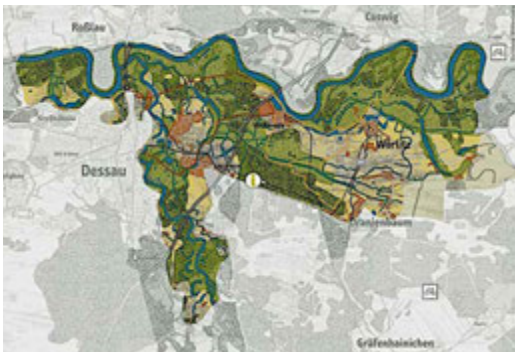



FIGURE 2.15 Contemporary plan projection map of Gartenreich Dessau-Wörlitz (Image: UNESCO Welterbeliste, gartenreich.net).

91 De Jong, 2007a.

92 Ibid.

93 Wulf, 2015.

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# 3 Towards A Composition-Based Methodology For Landscape Architecture

The discussion of composition in chapter two – in particular the final consideration of the lexical and etymological aspects of the term composition - provides a more fundamental and broad-brushed understanding of composition with which to continue this study. As outlined in the introduction, the research design assumes the ecdysis of existing composition-based models for landscape architecture. As such, chapter two can be seen as a lens with which to select and review an existing model from the range of developed frameworks.

## 3.1 Composition-Based Frameworks For Landscape Architecture

Composition-based frameworks in landscape architecture arise from scholarship carried out since the emergence of the discipline in the early modern period. In reality however, research of landscape designs only properly gathered pace in the twentieth century, so I will focus on this period. Furthermore, the consideration of frameworks for this review is informed by different strategies of inquiry. Cooray (2012) makes a useful distinction of strategies of inquiry in research of landscape designs into two categories: the art-historical tradition and the technical-analytical tradition. While art-historical methods focus on the medium of text, technical-analytical studies explore designs with a focus on drawings, diagrams and models. Technical-analytical studies reveal their agency by attempting to unearth design knowledge to be used in future transformations. These strategies analyze the 'products of design', recognizing them as instrumental in that they help understand a particular issue whereby this issue is not necessarily explicit in the minds of the designers, nor in the processes by which the designs emerged, but may be distilled from the projects themselves, through structured analysis.[94]

One of the earliest analyses in the technical-analytical tradition is Jellicoe & Shepherd's study Italian Gardens of the Renaissance from 1925. This work shows an understanding of a landscape design drawn using (highly embellished) plans and sections [Figure 3.1]. The intention of this work is to show the agency of landscape architecture as a physical-material (i.e. artistic) combination of plants, water and structures in a particular topographical setting. Hazlehurst (1980) expanded on this method in his study of the gardens of Andre Le Notre, looking into design schemes in relation to topography, definition of space, axes and focal points, optical effects, sudden surprises, symbolic meaning. Hazelhurst's disclosure of how the work of Le Notre grapples with the particularities of a site is noteworthy, but its focus is limited to physical-material aspects. Attempts at revealing a more fundamental type of compositional praxis can be found in the approach developed by Meeus (1990) which included the categories 'design methods' (routing, orientation, coherence, dominance, and meaning); 'principles' (historical continuity, spatial continuity, flexibility, fragmentation and formal orientation); 'design concepts' (fragmented, pragmatic, eclectic and purist); and 'design styles' (functional, classical and romantic). Baljon (1992) adapted Meeus' framework to analyse schemes

94 Cross, 2006.

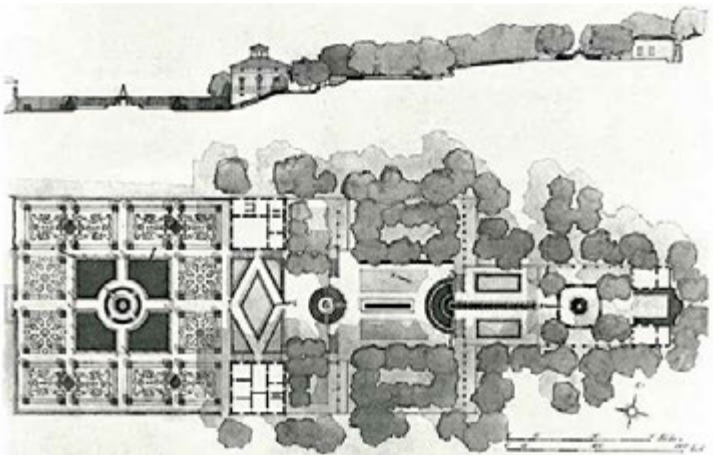


FIGURE 3.1 Plan and section drawing of Villa Lante. Italy. (Image source: Shepherd and Jellicoe, 1925).

for the Parc de la Villette competition, adding the category 'graphic composition', a merging of design methods and principles into 'components of coherence', and a renaming of design concepts into 'design strategies'. Noteworthy in Baljon's study was the shift from the analysis of gardens to the review of a major urban public space design, which foregrounded the agency of (urban) landscape architecture in addressing multiple (i.e. territorial, technical, social and cultural) problematique. Insofar as these studies focus on purely formal-material qualities and associated stylistic preoccupations of landscape designs however, they still embody the initial definition of composition as creative work, precluding a broader definition of composition as embodying a multi-dimensional – and integrative - approach of landscape architecture.

### 3.1.1 The Delft Method

In reviewing ways to study landscape architectonic compositions Nijhuis (2015) categorizes these aforementioned frameworks as 'Morphological-Formal' studies, and includes in this category a method developed at Delft University of Technology in the Netherlands. Beginning in the late 1980s, a group led by Wouter Reh, Clemens Steenbergen, Gerrit Smienk and Paul van der Ree carried out studies of Italian, French, English and Dutch garden designs using a methodology they developed as part of the 'Delft tradition' of research at the faculty of architecture. The Delft tradition complements the urban morphological schools of Italian, French and British origin by focussing on analysis in relation to design, as opposed to purely typo-morphological analysis.[95] This form of plan analysis has as its goal the unravelling of the design process of a particular scheme by isolating and articulating the essential features of a spatial composition through the production of new drawings. It involves the preparation of the precise geometrical delineation of landscape designs using (architectural) drawings such as parallel projections (plan, view, section), proportional projections (isometric, plani-metric) and converging projections (perspectives) [Figure 3.2]. The method has been used extensively since 1990 by researchers

95 Pinzon Cortes, 2009.

affiliated with Delft, primarily as a design research tool.[96] The first analysis were carried out on Italian Renaissance villas, and the method was used thereafter on formal and landscape gardens. With the aid of the composition scheme, designs can be examined both retrospectively and prospectively. Retrospectively, as a form of 'design research' whereby existing plans are dissected and analysed; prospectively, as a 'research-by-design' tool whereby existing composition elements or whole schemes are transferred to a new situation, to better understand what needs to be addressed compositionally.

What is of interest for this study is that the method expands on the formal-material tradition of analysis to reveal - as opposed to stylistic aspects - the locational, spatial, semiotic and programmatic aspects of landscape design. This is done by the separation of a designed landscape composition into four operations or procedures: *Programme Form* (the location and organization of programmatic elements in relation to access and circulation; *Spatial Form* (the arrangement of three-dimensional form such as masses, voids and focal points to create spatial dynamics); *Image Form* (the arrangement of metaphorical elements into a landscape narrative); and *Basic Form* (the configuration of a geometric basic form or basic plan in which the topography of the natural and man-made landscape is rationalized and activated in a design layout). Together, these layers or 'treatments' make up a composition scheme that is a unique synthesis of programme, spatial motifs, visual conventions and genius loci.[97]

Considering the Delft framework in the frame of a broader understanding of composition as outlined earlier, we can note that composition here is understood as the tool that elaborates the content and form of a designed landscape, whereby content is understood as the material, topographic, spatial and functional aspects of the composition.[98] On the basis of this description the Delft method may be understood as more than a morphological-formal approach, particularly as its proponents also contend that "the process of design results in a landscape architectonic arrangement of natural, cultural, urban and/or architectural elements in relation to spatial, ecological, social and economic conditions and objectives."[99] The capacity of the method to unravel the agency of landscape architecture beyond abiding ideas of a stylistic praxis is demonstrated in the analysis of Central Park from the publication *Metropolitan Landscape Architecture* [Figure 3.3]. As such, although developed as an analytical method to carry out research of landscape designs, the Delft framework can also be seen as a simulation of the landscape design procedure; despite the dynamics and volatility of the design process, landscape designers were considered to at some point address and elaborate the four treatments as 'operations' of programme form, spatial form, image form and basic form, as part of a proper resolution of a landscape architectural project. As method, these aspects ostensibly fit well with landscape architecture praxis, as about bringing the multivalent content of the design (its material, topographic, technical and cultural 'stuff') into relationship with the form of the territory (its physical shape and appearance). On this basis, the Delft method can be concluded to be a suitable method to continue with. In the following pages I will proceed with it in two ways: on the one hand to elaborate on how it succeeds as a framework to describe the particular agency of landscape design praxis, and on the other to critique it from various angles.

96 For instance: Steenbergen, 1990; Van der Kooij & Steenbergen, 1991; Van der Ree et al., 1992; Reh 1995; Steenbergen & Reh, 1996, 2003; De Wit & Aben, 1999; Steenbergen et al., 2008; Steenbergen et al., 2009; Steenbergen & Reh, 2011; Smienk & Niemeijer, 2011; Cooray, 2012; De Wit, 2014; Nijhuis, 2015; Bobbink, 2016

97 Steenbergen, 2008.

98 ibid.

99 Steenbergen, 2008, p. 11

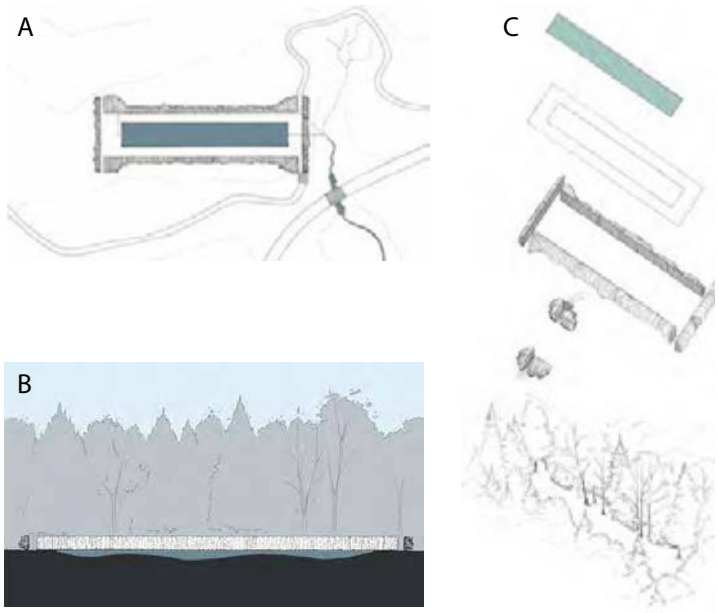



FIGURE 3.2 Plan (a), elevation (b) and three-dimensional drawing (c) of Bloedel Reserve Reflection Garden. (Image: De Wit, 2011).

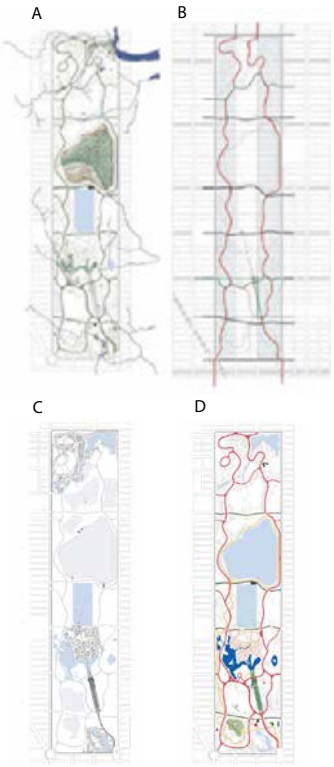



FIGURE 3.3 Basic Form (a), Spatial Form (b), Image Form (c) & Programme Form (d) of Central Park, New York. (Image: Steenbergen & Reh, 2011).

### 3.1.2 Conclusion

The consideration of the lexical and etymological aspects of the term composition purports composition as elaborated by the Delft method as a suitable framework to elaborate landscape design praxis. Some discrepancies however, arise from the earlier consideration of the 'pedigree traditions' of garden and territory. A dynamic, process-based understanding of landscape design inherent in the art of gardening for instance, is plainly at odds with the somewhat static iteration of landscape design implicit in the Delft approach. The dynamic experience of landscape space also forms a problem in the method: most gardens - and all territories - necessitate movement (to understand them), whereas the serial elaboration of motion may be addressed in the Delft approach, but only in a purely visual way. Scale also forms a problem in the approach: as revealed in the example of Dinocrates' plan for Mount Athos, landscape design is determined by the specifics of situation (a mountain) and its scale (territorial). Vitruvius' criticism of the scheme reveals the incongruity between a (static) architectural composition and a holistic arrangement of natural and man-made features on an enormous scale. Similarly, our consideration of landscape and representation reveals that the term not only connotes a construction or composition of the world, but also the orchestration of systems, processes and practises interacting together in a particular territory.

As such the next step is to consider whether and how the method has perhaps 'flown too close' to the explication of composition from its sister discipline architecture. At the same time, given its relative suitability, I enlarge on areas in which the method can be developed further, to inform a review of the method towards a fuller elaboration of design-as-composition praxis.



TOC

## 3.2 Strengths and Weaknesses of the Delft Approach

### 3.2.1 Composition in Architecture

As stated in various publications, the Delft group drew on architectural theory to develop their model. But how exactly has architecture informed and influenced the Delft framework of composition in landscape design? And what are the inconsistencies – and overlaps – in this relationship? In architecture, composition is defined as an activity directed towards the synthesis of spatial-material construction, whereby both technical endeavour and artistic combinations of elements formed a conceivable whole.[100] Colquhoun (1991) notes that composition came into use in architecture at the end of the nineteenth century in response to eclecticism, a movement that catalysed the search for a means by which rules of architectural design could be elaborated beyond stylistic discussions. The discussion on composition drew on a developing discourse on the elements that define a building, which began in the eighteenth century with the writings of Marc-Antoine Laugier [1713 – 1769]. Laugier (1753) proposed the primitive hut as the basis for architecture, and distinguished two functional parts derived from the crafting of materials produced by a tree/forest: supporting branches and covering leaves [Figure 3.4]. Semper (1851) noted however, that while materials may differ in different spatial and temporal contexts, formal characteristics remained, and therefore that branches and leaves (materials, construction and technology) may have *informed* architecture, but did not necessarily *determine* architectural elements. Semper enlarged on Laugier's framework to develop his four 'elements of architecture': *Herd* [hearth], *Erdentwerf* [ground], *Dach* [roof] and *Umfriedigung* [covering layer].[101] These categories draw on the building as a functional edifice, and on architecture as a discipline concerned with designing the whole. An architectural composition was also seen to include a symbolic aspect. In reflecting on the work of Semper, Haag Bletter (1982) posits that elements such as hearth and roof also symbolize functions, i.e. they have a semantic meaning on top of their material and functional form. In addition, the creative process (of architecture) also involves an addressing of the interrelationship of elements, such that composition in architecture can be said to concern the relation – and mutual interaction - between the parts of a building, that together make up the whole.[102] The concept of composition in architecture therefore implied a creative procedure in which something new and spatially coherent emerges. This work formed the basis for a model developed by the architectural theorist Paul Frankl, who proposed four aspects or procedures that determine architectonic composition: relation of the design to social functions (purpose), combinations of space, divisions of space, static or dynamic arrangements of space (*spatial form*), treatment of mass and the enveloping surface of the building (*plasticity*) and articulation of colour, light and other visual effects (appearance).[103]

100 Steenbergen et. al. 2002.

101 Semper, 1851.

102 Leupen, 2002.

103 Frankl, 1968.



FIGURE 3.4 Allegorical engraving of the Vitruvian primitive hut. (Image: Charles Eisen, source: Laugier, 1755).



FIGURE 3.5 Programme Form of Central Park, New York. (Image source: Steenbergen & Reh, 2011).

The operations spatial form, image form and programme form from the Delft approach resonate directly with Frankl's first, second and fourth procedure. Exceptions are Frankl's third aspect (plasticity) and the Delft method's first aspect (basic form), to which I will return later. Curiously, no exposé has been written up on how the Delft group actually went about adapting Frankl's theory into a framework for landscape composition. The many accounts of the method merely state the Delft framework, preceded by Frankl's framework, beginning with sentences such as, "In a similar way the landscape architectonic design can be conceptually anatomised into various aspects."[104] As such, insofar as the method attempts to unravel an 'architecture of the landscape', the criticism that composition-based approaches such as the Delft framework being influenced by an architectural understanding of composition is justified. But how has the adaptation been elaborated in detail, and which critical developments in this adaptation need to be addressed?

### 3.2.2 Programme Form, Landscape Systems & Sustainability

Frankl's first procedure – purpose – was adapted to the Delft framework as 'programme form'. The introduction of a specific functional dimension to landscape architecture brought for the first time a

104 Reh & Steenbergen, 2003, p. 383.

programmatic component to a predominantly formal-stylistic understanding of landscape design. This inclusion draws on the step taken in architecture to move the craft of building design beyond stylistic preoccupations, by returning to the functioning of a building as central to the compositional activity of a built edifice. An important difference in the Delft method was the rearticulation of programme form as being about addressing "cultural expression, meaningful encounters with nature, and economic benefit", aspects seen to be specific to landscape architecture.[105] These points were couched in the classical dyad of *otium* (recreational and cultural programme), and *negotium* (economic programme), whereby the landscape design composition was seen as a continuous search for a balance between both.[106] In principle, this programmatic dimension (and the splitting up into *otium* and *negotium*) sets the method apart from other frameworks of composition by articulating an operative understanding of landscape (design).
Critically however, this adaptation pays little attention to the social dimension of designed landscapes in urban contexts, an oversight made patent in the Westergasfabriek example, where the choreography of social interaction forms a central thematic in the scheme. Moreover, while this step moves beyond purely formal notions of composition, at the same time it pays little regard to bio-physical aspects central to the systemic aspects of landscape, or associated ecological considerations axiomatic to landscape architectural praxis. In the analysis of Central Park for instance, we can note an exploded view of leisure zones, functions and connections similar to what we might conceive of in a building floor plan, but little attention to the geomorphological, hydrological and biotic systems beneath and beyond the site that form the 'DNA' of the territory and its translation [Figure 3.5].

Elaborating on this point in relation to the landscape scheme for Dessau-Wörlitz Gartenreich, I note a programmatic mosaic of recreation and movement (*otium*) as well as agriculture, forestry and housing (*negotium*), but grounded in an 'earth-life' system whereby hydrological and ecological aspects are incorporated. The validity of this *process+pattern* schema resonates across two centuries in the current land-use map of the territory, where many changes to the landscape are evident, but where the original schema of bio-physical systems and spatial patterns persists, forming as they do the underlay for current urban landscape development plans [Figure 3.6]. Emerging with this process-pattern schema then, is an iteration of landscape architectural praxis (and landscape) that is wholly more dynamic and open-ended than a built edifice, resonating with the tropes of garden and territory examined in the previous chapter, as well as an understanding of the term *landscape* as a set of systems, processes and practises interacting together in a particular territory. How systems, processes and practises in the brownfield park project play out, can be expected to inform the revision of programme form as treatment layer in landscape design.

Addressing these aspects in park design corresponds to the increasing focus on programme and functionality in landscape architecture. Corner (2007) contended that while the physical, cultural and experiential delights of parks are the *raison d'être* of their designation, the ecological, operational and programmatic aspects have become of primary importance in contemporary (large) park design.[107] Ecology and broader sustainability goals in particular became progressively more important in the post-war period, with environmental concerns bringing into focus the fragile biosphere and the degradation brought about by human activity. The case for addressing ecological sustainability understandably settled not only into park design briefs, but also into the urban realm itself.

105 Steenbergen, 2008.

106 Ibid.

107 Corner, 2007, p. 12.

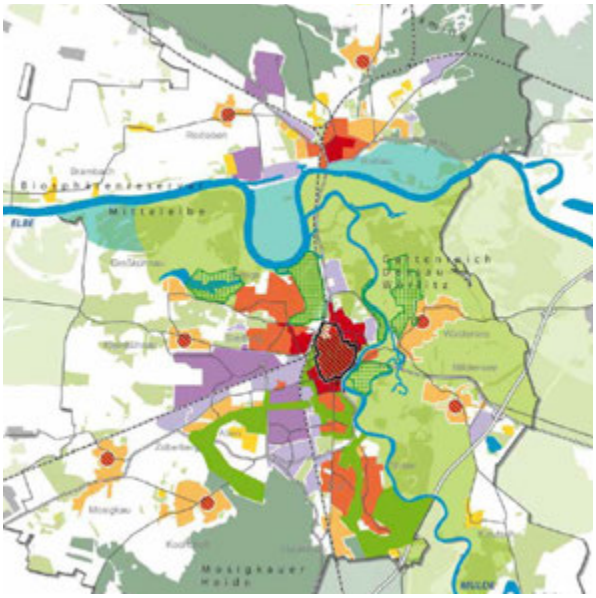


FIGURE 3.6 Integrated Urban & Landscape Development Concept (*Integriertes Stadtentwicklungskonzept*) Dessau-roßlau 2025. (Image: Büro für urbane Projekte, Leipzig, 2013).

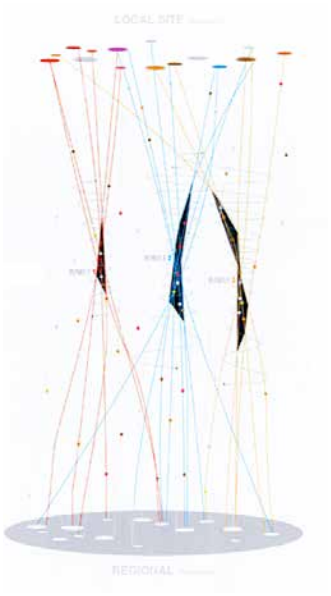


FIGURE 3.7 Systemic Design Diagram. (Image: Berger, 2009).

In the 1960s, voices such as Ian McHarg advocated the framing of human habitation within the cyclic processes of earth, water, climate, flora and fauna as a self-perpetuating biosphere.[108] McHargs's regional environmental planning approach was based on a paradigm that makes a clear distinction between humans and the natural world, with the city framed as the ugly and brutal monster, and the countryside the wholesome and sustaining realm. His scientific method proposed a radical reigning in of human development and a return to natural processes much akin to nineteenth century notions of 'man versus nature'.[109] New perspectives emerging in the 1980s however, such as Michael Hough's *City Form and Natural Process*, and Anne Whiston Spirn's *The Granite Garden* attempted to develop strategies to apply ecological principles to urban planning and design based on a worldview in which human and natural processes co-existed.[110] Critical also was the emergence of the field of landscape ecology in the 1980s, which translated ecology into spatial terms, and introduced socio-spatial patterns into ecosystem thinking.[111] In the same period the emerging field of urban ecology began to highlight flora and fauna supported by – and in some cases dependant on – the urban realm. Work on the environmental history of particular cities also lead to new insights into the way human settlements shape and react to their natural environments.[112] A series of sub-disciplines focussing on the merger of cultural and natural processes has since emerged, including ecological design,[113]

108 McHarg, 1969.

109 Mossop, 2006.

110 Hough, 1995; Spirn, 1984.

111 See for instance Forman & Godron, 1986.

112 See for instance Cronan, 1991.

113 See Hough, 1995; Thompson and Steiner, 1997; Corner 1997; Johnson and Hill, 2002; Berger and Brown, 2009.

sustainable design and planning,[114] green infrastructure,[115] green urbanism,[116] landscape urbanism,[117] industrial ecology,[118] and urban metabolism [Figure 3.7].[119]

Elaborating the programmatic dimension in landscape composition also forefronts human needs in relation to landscape design praxis. Despite the individualistic and complex nature of human values, sociologists acknowledge an overarching hierarchy of basic human needs, whose provision designed landscapes - particularly in the urban realm – are mandated to help cover. These hierarchies can be considered using the work of Maslow (1968), who developed a pyramid of needs beginning with physiological needs, then on to security needs, affiliation needs, esteem needs and self-actualisation needs. Higher order needs enable community and societies to perpetuate, and are necessary to be able to address larger collective problems such as environmental sustainability. In recent years notions of sustainability has increasingly been broadened to include social and economical sustainability, based on the argument that if human needs are ignored environmental problems are not likely to be taken seriously. In this frame, Lang (1987) developed a hierarchy in which the interrelationships between human needs were visualized, adding aesthetic needs and cognitive needs to those of self-actualization. While accommodating basic societal practises (as any landscape design should do), the mandate of a designed landscape is to strive towards meeting these higher order human needs. As such, sustainability – ecological, human-social and economic - emerges as a critical frame for any elaboration of programme as procedure in landscape design-as-composition praxis.

### 3.2.3 Spatial Form, Visual Appearance, Kinaesthesia and the Sensorial

Frankl's second procedure – spatial form – was adapted into the Delft framework without major alterations, inferring that landscape space could be understood in a similar way to architectural space. Spatial aspects in the method were seen as an addressing of the physical form of a landscape through the arrangements of surfaces, planting and built form, which determine the scale, proportions and structure of a landscape environment [Figure 3.8]. Insofar as the elaboration of the many designed landscapes explored using the method revealed novel aspects of their spatiality that had hitherto received less attention, this treatment has proven valuable, and valid. At the same time some aspects that remain problematic. Nijhuis (2011) challenged the framework for not differentiating between the physical (volumetric) form of a designed landscape and its visual appearance. The visual dimension refers to the appearance of three-dimensional forms, the 'face of the landscape architectonic composition' as it were. Visible attributes include position, size, direction, number, shape, colour and texture, qualities which have an additional and independant role in the perception of a landscape environment.[120]

114 See Calthorpe and Van der Ryn, 1986; Lyle, 1994; Hester, 2006; Benson and Roe, 2007.

115 See Benedict and McMahon, 2006; Ahern 2007.

116 See Beatley, 2000; Lehmann, 2010.

117 See Mohstafavi & Nalje, 2003; Waldheim, 2006.

118 See Graedel & Allenby, 2003.

119 See Wolman, 1965; Sijmons, 2012.

120 Nijhuis, 2011.

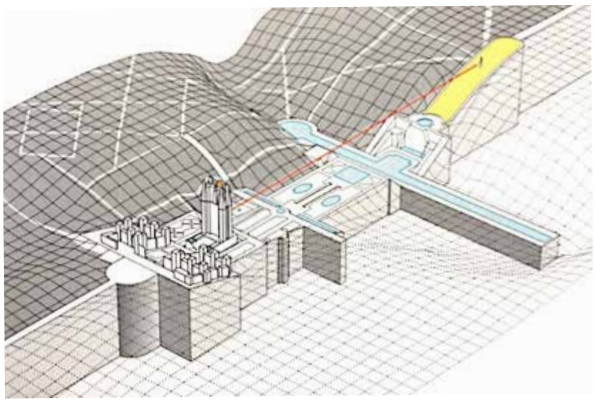


FIGURE 3.8 Analysis of the horizon on the spatial axis of Vaux-le-Vicomte, Melun, France. (Image: Steenbergen et. al., 2003).



FIGURE 3.9 Journey, Alexandra Blum. From the series: Spatial perception in urban and rural environments. (Image: Alexandra Blum).

More critically, space itself is necessarily dependant on the perception of an individual. In his pivotal 1768 essay *Concerning the Ultimate Ground of the Differentiation of Regions in Space*, Kant outlines the body's role in the emplacement of things and in giving them directionality, arguing that corporeal terms such as 'right' and 'left', 'up' and 'down', 'front' and 'back' give objects an orientation they otherwise would not - even could not – have. Casey (1997) observes that these paired terms also neatly describe the three-dimensionality of space, and concludes that space itself necessarily proceeds from the directionality of the body, thereby elevating Kant's ordinary observation into an extraordinary given: "Things are not oriented in and by themselves; they require our intervention to *become* oriented."[121] (Husserl 1973) goes a step further in proposing that "everything that appears, belongs to its [the lived body's] environs."[122] In this observation, all objects are given a location only by virtue of the fact that one's body forms a *Nullkorper* - a zero point in space around which everything is localized.[123] The body is therefore the stable point in a nebulous environment, displacing notions such as landmarks, the sun or a deity as *stabilitas loci*. As Husserl puts it: "I am always the persisting point of relation for my perceptual experience".[124] By extension, elaborating on the spatiality of designed landscapes can be said to be very different to the spatiality of a static built object, given the otherness of the perception of landscape as compared to architectural space. Moreover, in contrast to most architectural productions, the perception of a landscape can only be fully understood by movement.[125] Frankl himself pointed out that spatial designs are not just Euclidean arrangements of space but are also about the perception of that spatial arrangement - its visual manifestation to the receiver - which is dependant on the sequential perception of spatial information as we pass through a (built) environment.[126] The criticality of movement - in particular walking - to landscape perception, is also noted by De Jong (2007) who posits the walk as "an important unifying and structural principle in landscape design [...] and the discovery of landscape from past to present. It must be considered the

121 Casey, 1997, p. 205.

122 I refer here to Husserl's treatment of the body in relation to space from the lecture series of 1907 published under the title Ding und Raum, Vorlesungen, 1973, p. 80

123 ibid, p. 80.

124 Ibid, p. 308.

125 Conan, 2003.

126 Frankl, 1968.

hinge that steered more than anything else the changing options for use, experience and design, and contributed fundamentally to both personal and cultural developments".[127]

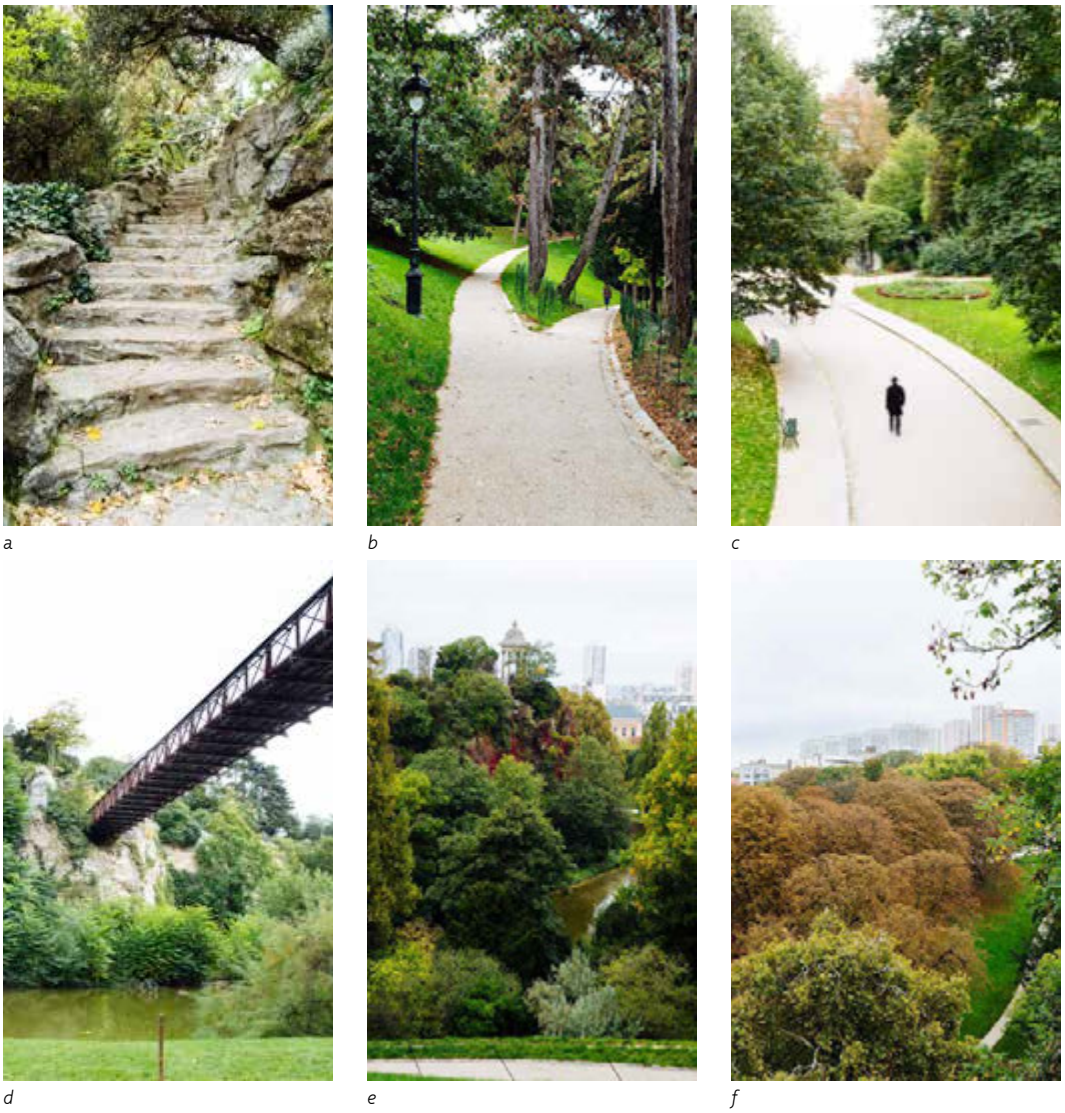
The inner experience of the moving (or resting) body - the kinaesthetic experience - Husserl argues as being crucial to understanding the environment around us. Through kinaesthesia, Husserl arrives at the notion of bodily space (*Lebensraum*), which brings about the animation of absolute space, disrupting it insofar as it provides the place of the 'lived body' itself.[128] The connection between body and place is realized in Husserl's thinking through the concept of near-sphere, a circle of nearness made up of places to which we can go, and the far-sphere – places which cannot yet be experienced but only envisaged. Husserl (1973) furthermore contends that spatiality is effectively constituted by this near-sphere, and singles out walking as critically instrumental in creating a coherent core-world out of fragments of environment; through walking, the disparate appearances of near-sphere and far-sphere are brought together into one unified spatio-temporal ensemble [Figure 3.9]. The primacy of movement to (designed) landscape experience posits the walk – and sequential perception - as a critical aspect in a designed landscape 'arrangement'. Walking - and other manners of movement - is a leitmotif of nineteenth-century urban parks such as Parc des Buttes-Chaumont in Paris. A network of footpaths followed and exaggerated the dramatic landform of the site, detailed with rustic features: stairs made of tree trunks or stone replicas, paths following creeks, or fake tree trunks functioning as passages [Figure 3.10]. Movement over these paths was (and still is) laboured and slow, but they are also humorous and playful, and sometimes even risky, like a hiking trip in the mountains. Curving over the terrian in sweeping lines was a second type of path intended as both bridleway and foothpath. A third form of movement catered for horse and carriage traffic over a network of sweeping promenades, generating an experience from a raised position along a gently curving route. At certain points, paths cut across the landscape via bridges. In 'overcoming' the hilly terrain, these constructions glorified nineteeth-century ideals of technology and engineering, and from various movement lines views could be had of the distant (technological) city.

Interrelated to this sequential perception is the sensorial experience accompanying movement. The apprehension of a landscape is always complemented by other senses: what we hear, smell and touch in a landscape environment affects our perception of it.[129] As noted in the case of a scheme like Westergasfabriek, the sensorial experience of a park environment is rich and varied; indeed, it is almost impossible to *not* let our senses influence our perception. In traversing topographies, our visual perception is augmented by sensations such as the feel of the ground underfoot and the tactility of materials we touch. In her study of contemporary metropolitan gardens using the Delft method, De Wit (2014) notes the unsuitability of the framework to accommodate the visceral/sensorial qualities of a designed landscape. To include these aspects, De Wit analysed the sound produced by features

127 De Jong, 2007, p. 20

128 Husserl, 1973.

129 In recent years, the architectural discourse has also begun to re-focus attention to the role of the senses in the design of buildings. Pallasmaa, (2012) for instance, notes the privileging of sight above the other senses in western culture, and its evident bias in twentieth-century architecture, countering that qualities of space, matter and scale are measured equally by the eye, ear, nose, skin, tongue, skeleton and muscle.



a b c d e f

FIGURE 3.10 Footpaths (a), Bridleways (b), Carriageways (c), Bridge (d), View west (e), View east (f). Parc des Buttes-Chaumont, Paris. (Image: Photos: Dick Sijtsma, 2017).

such as falling water [Figure 3.11]. There is an important relationship between distance and sensory information: sounds move slower than light and smell has a limited reach, while taste and touch can only be experienced using direct bodily contact.[130] Moreover, as weight, pressure and resistance are part of our habitual body experience, we unconsciously identify with characteristics such as mass and grain, making us receptive to the materiality of earth, plants and water.[131] Together with kinasthesia, the visual and sensorial articulation of a designed landscape would appear to demand a very different adaptation of compositional praxis than the static euclidean perspective taken by the Delft method.

130 De Wit, 2014.

131 Ibid.

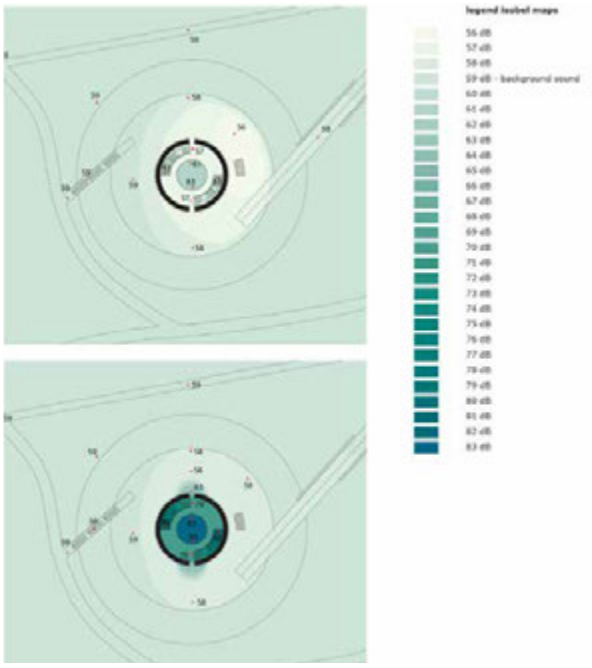


FIGURE 3.11 Isobel maps of the Wassercrater garden, Bad Oeynhausen. (Image source: De Wit, 2014).

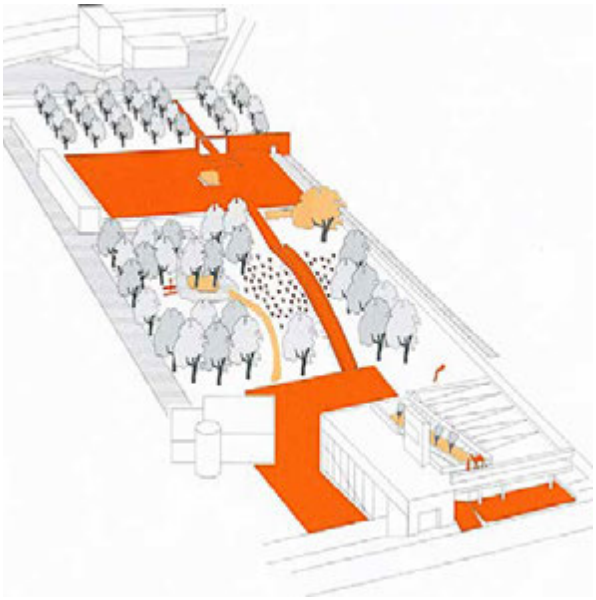


FIGURE 3.12 Image types, Museum Park Rotterdam (Image source: Van der Zwart, 2004).

### 3.2.4 Image Form, Meaning and Reception

Thusfar, the consideration of components of a designed landscape composition has touched on programme form and spatial form, including a critical note on visual, kinaesthetic and sensorial aspects. But while these observations address the structuring and experience of a designed landscape, they do not yet address the meaning of a designed landscape. To this end we can consider the third operation in the Delft method - image form – as a procedure intended to elaborate on meaning in a designed landscape. The method adapted Frankl's final procedure (appearance) with the inclusion of those features in a designed landcape scheme which referenced archetypal landscape or architectural elements, and/or communicated a particular narrative. According to the Delft approach, image form is a fundamental aspect of (landscape) architectonic composition, engaging as it does with the complex currency of meaning and communication in design, and an enduring objective in park design praxis. This tradition has its origins in the historical development of the park as a progression out of the pleasure garden within an urban setting; from the medieval hortus conclusus to the English landscape garden, conveying meaning was a guiding theme of the pleasure garden. In the Delft method, the image form of designed landscapes such as parks refers to the way in which it expresses things or refers to ideas, objects or events independent of the locus but forming part of a shared collective bank of images. Associations and thoughts generated in the visitor by these images render the park 'meaningful' to him or her. An analysis of Museum Park in Rotterdam for instance, identifies fifteen archetypal features: veranda, port, gallery, garden, terrace, sculpture, meadow, island, stream, bench, bridge, tree, avenue, garden wall, and orchard [Figure 3.12] .[132]

132 Van der Zwart, 2004.

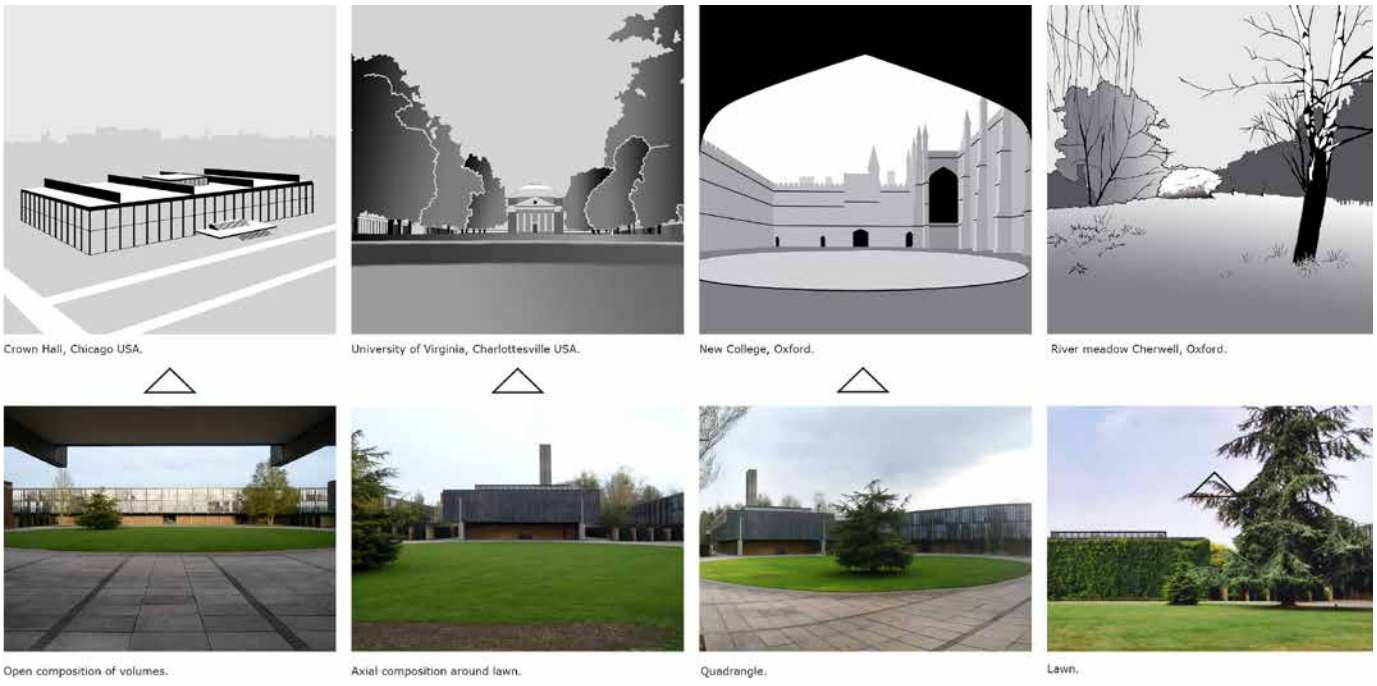



FIGURE 3.13 Analysis of proto-typical reference images, St. Catherine's College Oxford. (Image source: De Wit, 2014).

The meaning of features of Museum park to the receiver however, is not uniform. As meaning is both created and received, it resides both in the object and the eye of the beholder.[133] On this point, Hershberger (1970) observes that meaning is the implied or explicit significance of signs, symbols, context, and other external phenomena that give rise to mental activity. This thematic, and its relation to programmatic, spatial, visual, kinaesthetic and sensorial aspects, may be tentatively understood and addressed in our discussion of the Delft composition framework from an environmental perception perspective. Ittelson (1978) identifies four types of perception: *Cognitive* – the thinking about and organising of environmental information (making sense of the environment); *Affective* – our feelings or emotions about an environment; *Interpretive* – the meanings or associations we make of environmental stimuli; and *Evaluative* – our valuing of environmental stimuli (what we consider 'good' or 'bad'). If the spatial, visual, kinaesthetic and sensorial can be said to involve the cognitive and the affective dimensions of perception, the interpretative and evaluative aspects of perception can be said to give meaning to the experience. De Wit (2014) expanded in this point by isolating the specific references evoked by designed landscapes in different cultural and geographical contexts. In her analysis of St. Catherine's College quadrangle in Oxford designed by Arne Jacobsen, she links the imagery of the scheme to four proto-typical images from international and local sources [Figure 3.13]. De Wit's work expands on the image-forming procedure of landscape design beyond archetypes and 'collective' interpretation of images, showing the different ways it may be received by the end-user. Following Ferdinand de Saussure, meaning emerges from a process of 'signification' made up of the signifier and the signified, whereby the *signifier* is the *form* which the sign takes on and the *signified* is the mental *concept* it represents.[134] The designer may therefore intend meaning for what is designed, but users attach meaning based on their cultural background and personal situation. How a person attaches meaning to a sign is thereby as

133 Carmona et. al., 2012.

134 De Saussure, 2011.

much a matter of reception as what is intended with the 'signifier'. The inherent multiplicity of images in a re-purposed environment such as a brownfield park, suggests not so much an attention to an intended meaning, but a focus on how visitors attach different meanings to physical environments. The questions becomes: to what degree does reception play a role in the brownfield park project, and does this revise the operation of image form in fundamental ways? Related to this challenge is the validity of the concept of 'recognisable features' in a creation that is by definition temporal. Designed landscapes change constantly, influenced by daily/seaonal temporality. As Leatherbarrow notes " once variation is granted, a tough little question presents itself: what offers itself for recognition in a landscape?"[135]

### 3.2.5 Basic Form, Genius Loci & Site-specificity

The above reflections demonstrate discrepancies in the Delft approach in relation to designing landscapes, and by extension the contiguity of the approach to composition as theory and methodology in architecture. Critical additions and alterations to Frankl's method however, do emerge in the Delft framework. Frankl's third procedure – the treatment of the mass and envelope of a building - was for obvious reasons left out. In its place, the group included a new procedure - basic form – to delineate the particular agency of landscape architecture in configuring the layout of design schemas in relation to their topographic context. A central term used to elaborate on this aspect was *genius loci*, understood as the specific morphology of the natural landscape (*topos*), the overlying cultural landscape (*locus*) and the urban landscape system (*nodus*).[136] This treatment proposes that the identity of a place is a critical goal of landscape architecture, aligning with Leatherbarrow's contention that that which makes it (the landscape) identifiable, is a central component of the design task.[137] In the Delft method, schemas are reduced, rationalized and activated in a landscape architectonic composition through the basic form 'treatment' or operation [Figure 3.14].

In principle, the introduction of a procedure focussing on the configuration of morphological aspects of site and territory illustrates a fundamental break with modernist tabula rasa views of site as generic surface for building activity. In discussing landscape architecture's relationship to architecture, Leatherbarrow (2004) slates Modernism for its overlooking of this critical aspect, and applauds landscape architecture for the opposite reason; indeed he proposes that architecture must take the lead from landscape architecture and return to its primary modus as 'topographic art'.[138] But as Meyer (2005) points out, site-specific approaches go further by fundamentally challenging the (Modernist) division between site analysis and design, proposing that designers merge these activities into one creative act: "design as site interpretation, and site as program, not surface for program".[139] Braae and Diedrich (2012) enlarge on the otherness of this mode of praxis in describing site-specific praxis thus:

135 Leatherbarrow, 2004, p. 200.

136 Steenbergen & Reh, 2011.

137 Ibid.

138 Leatherbarrow, 2004.

139 Meyer, 2005, p. 93.

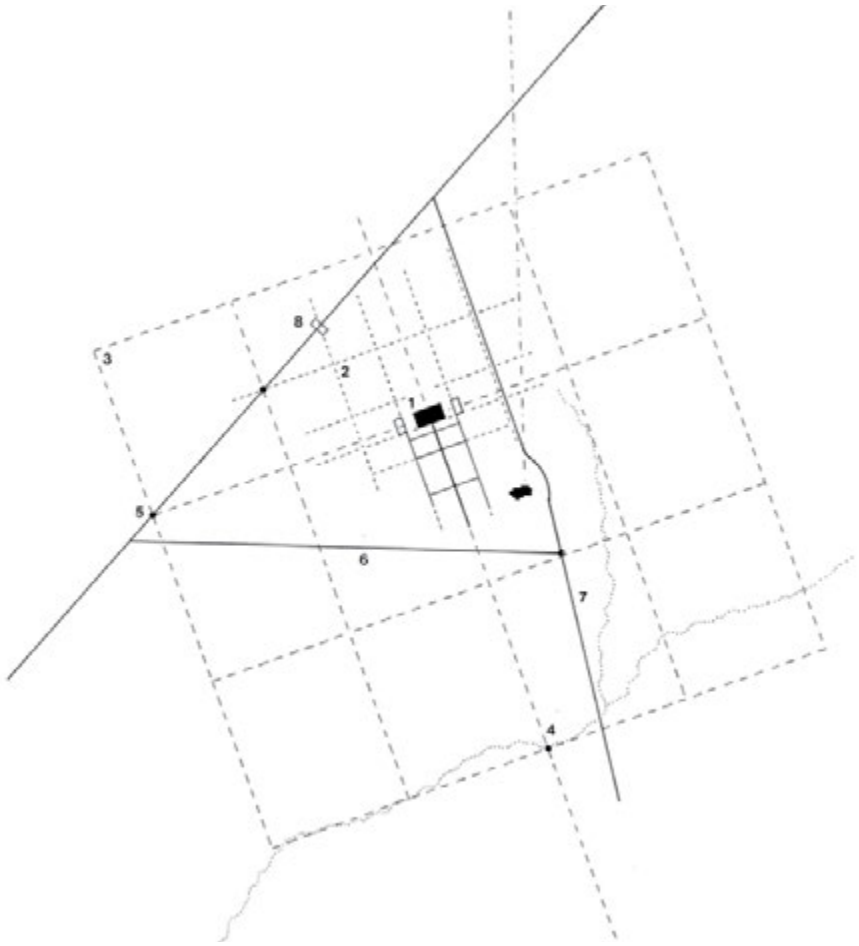



FIGURE 3.14 Analysis of the hidden geometric relationship between an English landscape garden [Stowe] and the topography of the original landscape. (Image source: Reh, 1995).

*"it differs fundamentally from the methodological basis on which architecture - historically constitutive for landscape architecture and urban planning practices - has been grounded since the Renaissance, and hence from traditional design practice as it was understood throughout most of the twentieth century. Following this line of thought, the dominant conception of architecture, and, hence, of design, is connected with creating new forms; it is an assemblage of ideas, desires and activities that constitute a complex that serves as a driving core of Western culture and what we have come to know as 'progress'.*

Placed in this perspective, Meyer's approach proceeds in a broader manner to the treatment of site elaborated by the Delft method, given that the tools used to explicate schemas in the Delft approach make use of the traditional apparatus of the (architectural) drawing. As has come forward in the earlier discussion of landscape and its representation, these drawing conventions (and their central protagonist architecture) embody a mindset of autonomy and removal from the particularities of a locale, thereby engaging with the site in a somewhat cursory way. Plan, section and perspective provide a privileged viewing angle, building a frame for thinking about and producing space by seeing

design as a clean start: constructing a representation of a project in mind on a blank sheet of paper.[140] In deploying architectural conventions of representation, the landscape architectural project therefore remains a design problem motivated by notions such as originality and the creation of a new reality.

An exansion of the procedure to elaborate the specifics of a site as program on the other hand, reveals the characteristics of the existing in creative and alternative ways, thereby dissolving the boundaries between site survey and project. As noted in the introduction, the brownfield park project has been pivotal in catalysing new insights on the subject of site-specificity. The immanence of remnant (infra) structures and aberrant landscapes on these sites has prompted a renewed interest in the existing and the urge to integrate all kinds of aspects of these complex sites.

Corollary to what we see in projects such as the Westergasfabriek, the brownfield transformation illustrates how landscape architecture involves the modification of an existing condition - in this case obsolete (industrial) site - to another condition - a park, whereby 'reading and writing' of existing conditions form the primary driver of the design. Building on theories of site, preservation and transformation, Braae and Diedrich (2012) examined derelict harbour brownfields, developing three pairs of analytical parameters for elaborating how designers 'read' sites: physical (structure, material), flux (processes, practices), and immaterial (memory, atmosphere). They furthermore identify two primary 'editing' strategies from a wide range of 'sense of the making' aspects: connectivity and appropriation. These parameters offer a useful prompt to expand the instrumentation and elaboration of the basic form operation in a landscape architectural composition. A final, fundamental question in the elaboration of basic form as procedure via the brownfield park project, is the necessity of the operation itself. Typical conditions of these sites include divergent morphologies and boundaries, and the presence of remnant industrial buildings and infrastructures in various states of decline. Moreover, brownfields often have little or no 'original' topography remaining, and in extreme cases may be literally 'groundless'. How relevant (and useful) is a plan configuration operation at that point?

### 3.2.6 Conclusion

A discussion of each of the procedures of the Delft method has revealed fundamental strengths, critical discrepancies, and areas for improvement. Overall however, the Delft approach presents itself as a workable base framework to elaborate landscape design-as-composition praxis further, in particular through its (albeit provisional) incorporation of the three disciplinary perspectives: site, process and form. A rudimentary elaboration of the concept of site is addressed in the 'basic form' procedure. Moreover, its attention to programmatic aspects in the programme form operation, resonates with process-oriented considerations. As such, the method may be posited as embracing a broader elaboration of landscape architecture than purely formal-morphological delineations. Finally, the explication of experiential and aesthetic aspects via the 'spatial form' and 'image form' operations provisionally address a formal-material perspective on the discipline. These factors propose it as a suitable provisional framework to further elaborate landscape architecture as compositional praxis via the case study parks.

140 Braae & Diedrich, 2012.

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# PART 2 Brownfields & Brownfield Parks

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# 4 Brownfields

## 4.1 Industrialization & de-industrialization

Brownfield sites are the territorial remains of various phases of industrialization that have swept the western world in the modern period, commonly referred to as the First and Second Industrial Revolution.

Beginning in the early eighteenth century, technological, socio-economic, and cultural developments gave rise to what is known as the First Industrial Revolution, which emerged in Great Britain and spread to the rest of the western world soon after. This phenomenon was catalysed by a cocktail of technological developments: new energy sources such as coal, steam (engines), electricity and petroleum, by new uses of iron and steel, by the invention of the internal-combustion engine and through the development of machines such as the spinning jenny and the power loom. These events were matched by the large-scale organization of labour, and developments in transportation including the steam train, steamship and canal, road and rail infrastructure. Manufacturing facilities sprang up in and around many British cities, and thereafter in continental Europe, the United States and other western countries. The urban - and rural - landscape was also transformed by subsidiary facilities such as mines, wharves and warehouses, and a rapidly expanding network of canal, road and rail infrastructure. The city of the First Industrial Revolution demonstrated little territorial differentiation between production areas, infrastructure and living areas; all formed one polycentric agglomeration without any pre-conceived order or hierarchy [Figure 4.1]. Knox & Pinch (2000) note however that there were indeed socio-spatial shifts in cities caused by the first wave of industrialization: whereas pre-industrial cities were small-scale 'walking' environments where the elite lived in the central urban core and the rest of the population in the periphery, in the city of Industrial capitalism this structure became inverted, with the poor forced into poor-quality, inner-city districts while the middle and upper classes moved to the urban periphery.



FIGURE 4.1 Industrial Landscape, Ashton-under-Lyne by L.S. Lowry. (Image: Cartwright Hall Art Gallery, Bradford, UK).



FIGURE 4.2 Aerial view of the Ford River Rouge plant near Dearborn, Michigan. (Photo: Detroit Publishing Co. collection at the Library of Congress).



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What is commonly termed the Second Industrial Revolution was a phase of rapid industrialization at the end of the nineteenth and beginning of the twentieth century, driven by innovations in manufacturing products and processes. Industries increasingly turned to new energy sources, which combined with developments in machines and tools gave rise to automated production lines. The Second Industrial Revolution also evolved the principal of capitalist industrial manufacturing: a system of organizing production and distribution based on industrial technology, wage-labour and private ownership of production facilities.[141] Exemplary for this model is so-called Fordism, a manufacturing system developed in the early part of the twentieth century by Henry Ford in Detroit to mass-produce automobiles. This system of production involves the planning of work by management staff, leaving production workers to specialized tasks. Ford integrated these ideas with the assembly line on which each worker did a simple task, often assisted by specialized machines. This system led to a revolution in production, as it suited the American labour market of unskilled migrants from European countries, who could do simple jobs on the assembly line requiring limited training and English language skills.[142] The result was an increase in both supply of, and demand for, products of mass production such as the automobile. The first Ford factory complex in Rouge, Michigan measured 2.4 km by 1.6 km, including 93 buildings with nearly 1.5 km² of factory floor space. It had its own docks in the dredged Rouge River, 160 km of interior railroad track, its own electricity plant, and an integrated steel mill [Figure 4.2]. Over 100,000 workers were employed at its peak in the 1930s. In terms of spatial development, rise of Fordism brought about a linking of mass production and consumption, which also manifested itself in extensive suburbanization, particularly in new-world cities. These and other urban developments reflected Fordist principles of decentralization, differentiation, repetition and hierarchical integration.[143] Initiatives such as the Works Projects Administration (WPA) set up in the USA in the depression years, carried out public works projects throughout the country, based largely on planning principles imitating Fordism [Figure 4.3].

From the middle of the twentieth century, structural cracks began appearing in the Fordist model, with inflation, market saturation, poor-quality products, inflexibility, an alienated workforce, and divergence between rising wages and declining productivity growth. On top of this, a series of recessions, oil crisis and political changes affected the automotive industry in the late 1960s and early 1970s. In the face of increasing market and technological change, a form of Neo-Fordism emerged, in which firms adjusted their output in response to varying market conditions. This new flexibility impacted on labour patterns, with workers now much more likely to be multi-skilled and a labour force that swelled or shrank in increasingly faster cycles. As a consequence, fewer people were needed to manufacture things, and the production of specialized products increasingly shifted to low-cost facilities outside Western countries. At the same time, the decline of demand for transport material such as ships and trains exacerbated, while international centres of corporation and finance developed as a result of increasingly globalized systems of manufacturing and capital markets. The processes that characterize Post-Fordism continue unabated, resulting in a globally pervasive shift in patterns of industrial production and distribution that has also be termed the Third Industrial Revolution.[144] The result of these various developments have meant that most western cities - and an increasing number of non-western cities – have undergone a radical transformation of their physical and social make-up [Figure 4.4]. In this context, Soja (1989) speaks variously of the 'postmodern global metropolis', 'cosmopolis' and 'post-metropolis'.

141 Duménil & Foley, 2008.

142 Knox & Pinch, 2000.

143 Braae, 2015.

144 Braae, 2015.

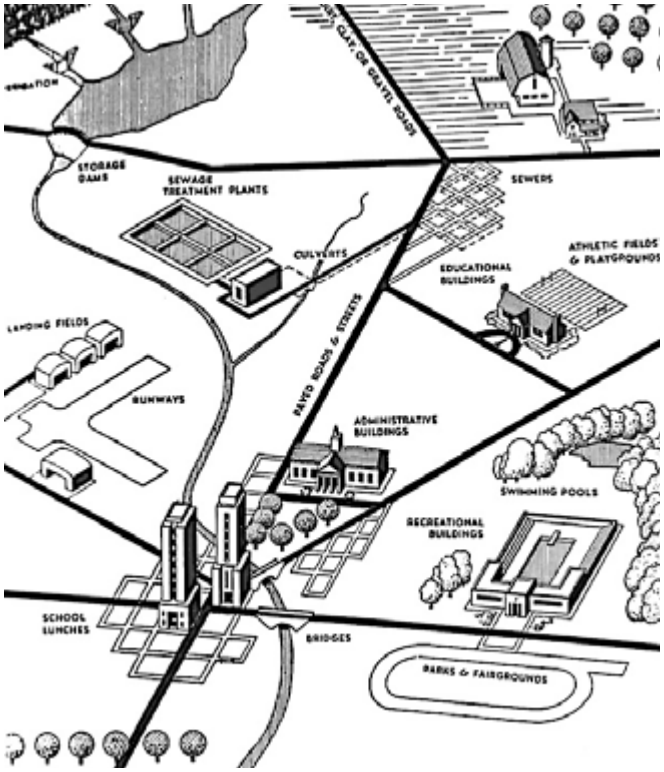



FIGURE 4.3 WPA Poster, Late 1930s. (Image: Prints & Photographs Division, Library of Congress, Washington, D.C.)

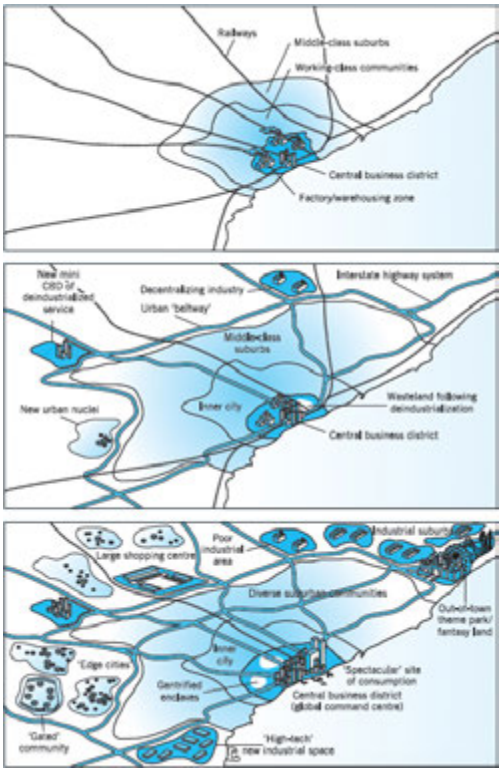



FIGURE 4.4 The transition from the classic industrial city, circa 1850–1945 [upper] to the Fordist city, circa 1945–1975 [middle] and neo-Fordist metropolis, circa 1975–[lower].(Image source: Knox, P.; Pinch, S. (2000).

The shift from Fordism to post-Fordism, and the developments accompanying this shift, has resulting in an increasing surplus of industrial territories throughout the western industrial world, a process known as de-industrialization. The decline of traditional primary manufacturing industries such as steelmaking, car manufacturing and shipbuilding has been especially pronounced in the industrial heartlands of Britain, the United States and Germany. Since the late 1960s, the list of disused industrial sites has grown significantly, from factories, mines, and depot sites to infrastructures for power, transport and storage; from warehouses, wharves, docks and shipyards to landfills, waste treatment plants; and from oil refineries, and gas stations to defence facilities such as airfields and barracks. As these abandoned territories have become steadily ubiquitous, they have also increasingly become the subject of attention for urban planners and engineers, as well as for artists and designers, leading to a growing variety of terms in the literature reflecting various disciplinary or cultural perspectives, such as post-industrial sites, derelict land, waste land, drosscape, *brachland, friches industrielles* and *terrain vague*. Probably the most common term in the literature to refer to these sites is 'brownfield'.

## 4.2 Brownfield Definitions

The earliest known use of the term brownfield can be traced to steel industry property management initiatives in North America in the 1970s, where the phrase 'brownfield expansion' came into



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use to describe the process of modernizing existing steel plants.[145] Its more common usage has developed in the area of environmental protection however, where the term became the norm in the USA to describe sites in which land was contaminated by pollution or industrial chemicals, chiefly derelict manufacturing sites left over by the process of de-industrialization. From this perspective, the initial focus in dealing with brownfields by administrations such as the USA's Environmental Protection Agency (EPA) was the remediation of land, where the term was used to refer to both known contaminated sites, as well as those suspected of being so due to previous or ongoing land-use, such as landfills and still-functioning factories.

The first official use of the term was at a USA congressional field hearing in 1992, whereby a detailed policy analysis on brownfields developed by the Cuyahoga County Planning Commission was granted an EPA funding award in 1993.[146] With the increasing costs associated with clean-up and the prevalent location of these sites in urban areas with social, environmental and economic problems, the focus of policy in the USA shifted towards redevelopment. In the process the EPA progressively expanded its definition of a brownfield, such that as of 2015 the term refers to "a property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant."[147]

The European understanding of the term brownfields is somewhat broader than in the U.S.A. A multidisciplinary network of sixteen European countries set up in 2000 under the acronym CLARINET (Contaminated Land Rehabilitation Network for Environmental Technologies), defined brownfields as "sites that have been affected by the former uses of the site and surrounding land; are derelict and underused; may have real or perceived contamination problems; are mainly in developed urban areas; and require intervention to bring them back to beneficial use".[148] This definition is closer to the common usage in the U.K. of the term brownfield to denote previously developed land (PDL). In an effort to develop a common definition Alker et. al. (2000) summarized the various interpretations from international practice and legislations associated with the term brownfield, into three categories: (1) contaminated land, (2) derelict land, and (3) vacant land. Contaminated land was defined as a "wider category of land which as a result of previous or current activities contain contamination concentration high enough to be a hazard on health or environment"; derelict land referred to "land which is derelict, neglected or unsightly" and "land so damaged by the industrial or other development that is incapable of beneficial use without treatment"; and the term vacant land described "land on which some previous productive use has ceased for a significant period of time".[149] Discussion continues as to whether this last category constitutes a brownfield condition, given that a brownfield is widely defined by its impact on the value of surrounding land (environmentally, economically and/or socially), is difficult to sell on, and requires more resources to revitalize them than administrations alone can provide.[150] Possibly

145 Yount, 2003.

146 EPA, 1997.

147 The Brownfields Site definition is found in Public Law 107-118 (H.R. 2869) - "Small Business Liability Relief and Brownfields Revitalization Act" signed into law January 11, 2002. "DEFINITION OF BROWNFIELD SITE- Section 101 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9601) is amended by adding at the end the following: (39) BROWNFIELD SITE- (A) IN GENERAL - The term 'brownfield site' means real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant."

148 Grimski & Ferber, 2002. P. 146.

149 Alker et. al. 2000. P. 53- 54.

150 Oliver, 2005.

the most inclusive definition for brownfields has come from Michael Hough, who notes that the term denotes "the legacy of contaminated and derelict lands that have been left by industrial activity".[151]

## 4.3 Scale and Extent of Brownfield Lands

As urban and national administrations improve their data collection methods, the extent of brownfield lands internationally, as well as their problems and potentials, are becoming progressively clearer. According to the U.S. Government Accounting Office, there were between 450,000 and 1,000,000 'contaminated' commercial and industrial sites around that country, as of 2004.[152] Documentation of brownfield sites in Europe is still relatively piecemeal, but figures from the CABERNET project (Concerted Action on Brownfield and Economic Regeneration) indicate close to a million sites in the 22 member states of the European union, as of 2005 [Figure 4.5].[153] The number of brownfields per European country varies dramatically depending on the definition used, and some member states have yet to provide data. Based on this, the CABERNET report concluded this number to be a conservative figure. Data for the Canadian situation remains sporadic. Benazon (1995) estimates that as much as a quarter of the Canadian urban landscape is potentially contaminated by industrial activity, while Sisson (1989) estimates the number of potentially contaminated sites across the country at 30,000. This figure is certainly (too) conservative, as a considerably less-populated country such as Australia estimates up to 160 000 sites to be contaminated due to previous land uses such as petrochemical refining, chemical manufacture and mineral processing.[154]

| COUNTRIES | SITES | COUNTRY | SITES |
|---|---|---|---|
| Austria | 2500 | Italy | 9000 |
| Belgium | 55000 | Latvia | no data |
| Bulgaria | no data | Netherlands | 120000 |
| Czech Republic | 10000 | Poland | 3230 |
| Denmark | 30000 | Portugal | 2000 |
| Finland | 20000 | Romania | no data |
| France | 200000 | Slovakia | no data |
| Germany | 362000 | Slovenia | no data |
| Greece | no data | Spain | 14900 |
| Hungary | no data | Sweden | 40000 |
| Ireland | 2300 | UK | 105000 |

FIGURE 4.5 Estimated numbers of European Brownfields in 2005. (Image: based on data collected by the CLARINET and CABERNET networks).

151 Hough. 2001, p. 16.

152 GAO, 2004.

153 Oliver et. al., 2005.

154 Naidu, 2014.

## 4.4 Towards a Landscape Typology of Brownfields

The enormous (and still growing) inventory of brownfield lands presents a heterogeneous mix of site morphologies and topographies, in diverse contexts and situations. From the perspective of their conversion into other land uses such as parks and public open spaces, there is a need to understand them as typologies not just of hazard and contamination, but of their specific spatial and material characteristics, and their relationships to urban territories. A classification drawn up by the EPA in 2005 forms a useful starting point; it established sector-based initiatives focussing on particular types of brownfields: derelict harbours (port-fields), mine-scarred lands (mine-fields), abandoned railway infrastructure (rail-fields), and underground storage tanks (UST-fields). The definition of brownfields used by Alker et. al. is furthermore useful to proceed with. The EPA sector initiatives can be divided into one of these three categories, with others added to this list as necessary [Figure 4.6].

Beginning with contaminated brownfields, facilities used for energy production and processing that have a particular spatiality and materiality, such as oilrigs and refineries can be grouped into a category 'oil lands'. In terms of their relationship to urban territories, these are typically large sites situated on the city fringe (refineries), but may also be are far removed from urban areas (oilrigs). A second category of contaminated brownfields with a distinctive spatiality and materiality falls under the heading 'manufacturing lands', such as steelworks, textile mills, pulp and paper mills, and goods factories. Depending on their age, manufacturing lands are often to be found within built-up areas. Landfill sites for household refuse are another type of contaminated sites with their own spatial and material character. I propose to term these sites 'dumping lands' and note that they are almost always located in or near urban areas. As the volume of refuse burgeoned in the post-war period, so did the number of landfills around the world.[155] From the 1970s onwards, shifts in waste management, increasing environmental controls and technological developments meant that many sites were completed or shut down.

A fourth category of contaminated land with a specific physical character is mineral extraction sites, which I term 'mining lands'. Besides the mining extraction pits themselves, the major territorial features of mining lands are spoil tips – the waste mineral material from coal and ore extraction which is usually piled up in mounds some many hundreds of metres in height. Mining lands have no consequential relationship to urban territories, but in areas such as the Ruhr area of Germany these sites do occur very close to towns and cities. 'Mining lands' are some of the largest brownfield territories, in both size and total area.[156] The U.S. Geological Survey (USGS) Mineral Resources Data System (MRDS) define 64,883 sites as past producers, that is, "a mine formerly operating that has closed, where the equipment or structures may have been removed or abandoned."[157] While most abandoned mines occur outside cities, there are instances where mines occur in urban areas, or where cities have encroached on mining lands, such as in the Ruhr area.

155 The U.S. Environmental Protection Agency (EPA) estimates that in 1986 there were 7,683 dumps in the United States, but that as many as 3,500 landfills closed since 1991 and by 2009 that there were only 1,908 landfills remaining nationwide. By contrast, the current estimate for landfills in Europe stands at more than 500,000, with around 80% of these containing urban solid waste, and 20% containing industrial wastes and residues. Source: Eurelco.

156 Oliver et. al, 2005

157 https://mrdata.usgs.gov/mrds. Accessed: 23 December 2016.

Sewage treatment plants and recycling facilities are a further category of contaminated brownfields with their own particular spatiality and materiality, which I term 'treatment lands'. Treatment lands are typically located in and around cities.

The EPA's 'port lands' category can be used to define a sixth type of brownfield. As many of these sites are not necessarily polluted, I propose a new sub-category - 'derelict land' - to denote these sites. Redundant defence facilities such as fortifications, and troop barracks, are another type of derelict land with a distinctive form and relationship to the city. These sites I term 'military lands'.
A final category includes redundant infrastructures such as railways, canals, highways and airports, which predominantly lie in or around areas of high population density. Some sites include combinations of two or more of these categories, a condition which has led to a high number of brownfield parks on these territories. These aspects are discussed in the next chapter.

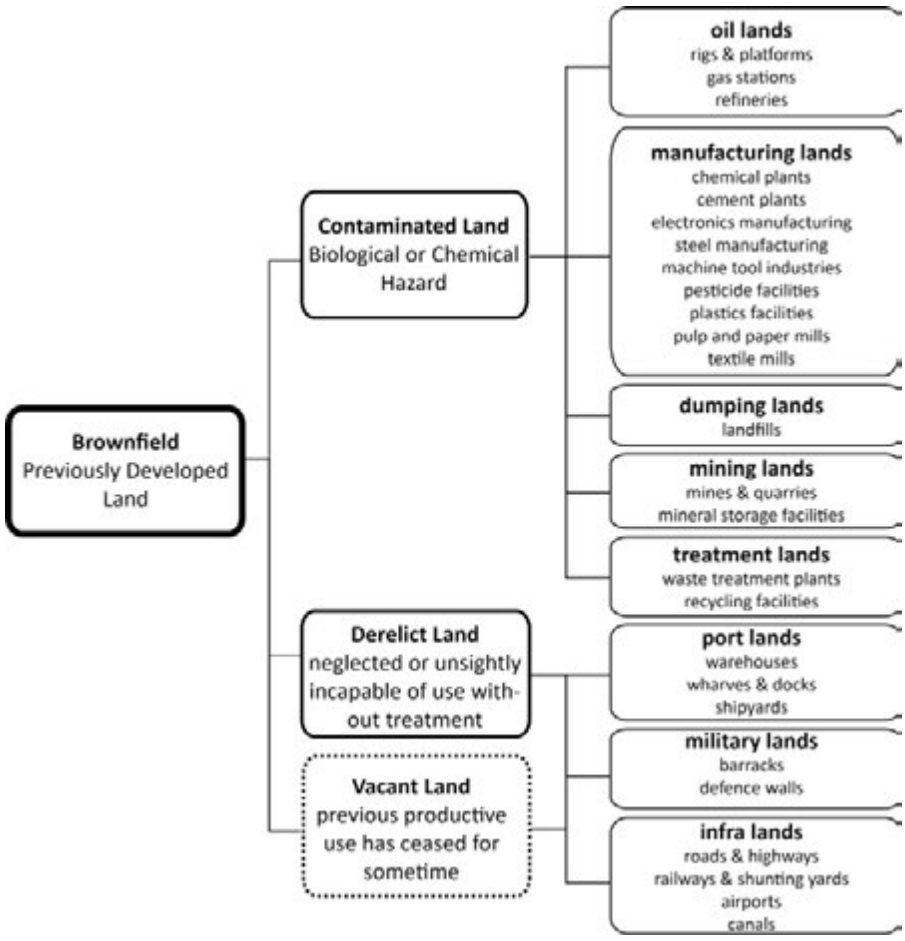



FIGURE 4.6 Categorization of brownfields into typologies based on their (former) function and spatial-material characteristics.



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# 5 Brownfield Parks

## 5.1 From Brownfield to Green Space

The rapid growth of brownfield lands in and around cities since the 1970s has triggered an increasing assortment of redevelopment initiatives for these territories. De Sousa (2006) notes that the main environmental benefits of brownfield redevelopment are the mitigation of the environmental risks posed by contamination, the restoration of nature, and the reuse of urban land to minimize development pressure on greenfield land. How these objectives are met however, varies significantly from country to country. Administrations in North America have traditionally focussed on re-purposing brownfields for alternative industrial uses, or for commercial and residential development, with less attention placed on recovering sites for green space. A number of exceptions will be discussed in the next section. It is becoming increasingly evident that many neighbourhoods around brownfields suffer from a shortage of public open space such as parks, playgrounds and natural open-space areas.[158] With these aspects becoming more acknowledged, the conversion of brownfields to public open space in North America has increased in recent years.

In Europe on the other hand, it has been more customary to convert brownfields to public open space. De-industrialization processes that began in the 1970s quickly triggered practices of policymaking enabling brownfield redevelopment into green space in many European countries.[159] In the period 1988 - 1993, over 19% of brownfield (derelict) sites in Britain for instance, were converted into green spaces - more than any other end-use.[160] One of the most emblematic examples of brownfield-to-green-space development in Europe however, is the Emscher region in the Ruhr area of Germany. As thriving industries such as coal and steel that became progressively obsolete in the post-war period, they left behind large tracts of contaminated, derelict land: former coal-mines, smelters, foundries, spoil heaps, tailings mounds, slag heaps, canals, harbours and railways [Figure 5.1]. Policy to deal with these sites focused on ecological remediation and green space development, and in the slipstream of these measures initiatives for economic and social improvement. A critical catalyst for this process was the International Building Exhibition (IBA) Emscher Park, a regional redevelopment initiative that ran from 1989 to 1999. Seven major objectives focussed directly or indirectly on green space: reconstruction of landscape (via the Emscher Landscape Park initiative); restoration of the river Emscher system; transformation of the Rhine-Herne canal into a recreational spine; highlighting the industrial heritage of the region; developing employment in the region; developing new housing areas (and housing concepts); and developing a broader range of social, cultural and sports facilities. As an approach, the Emscher Park initiative also contrasted to conventional, highly-detailed planning and

158 Harnik, 2001.

159 De Sousa, 2003.

160 UK DETR, 1998.

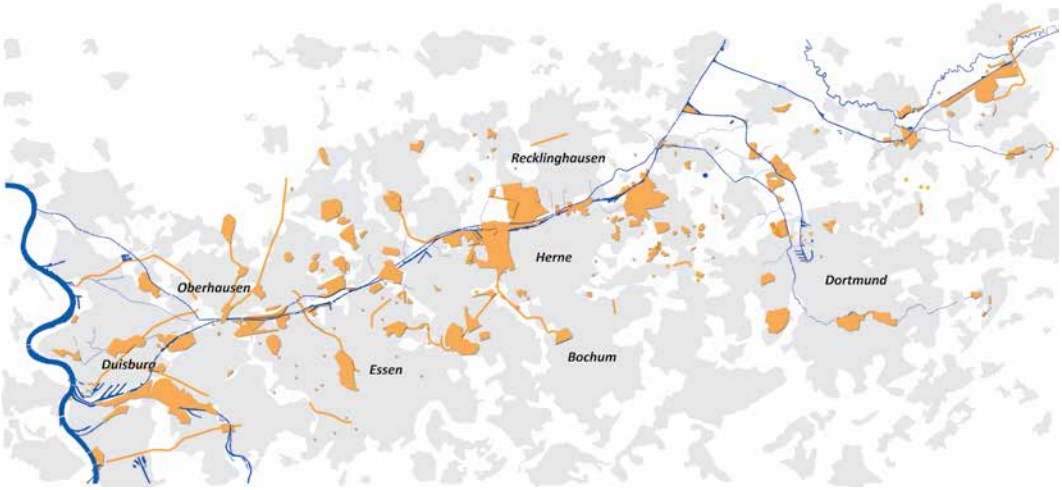



FIGURE 5.1 Brownfield lands along the Emscher river corridor, Ruhr. (Drawing: Author, adapted from Masterplan Emscher Park 2010, Regionalverband Ruhr)

design approaches, by opting for a combination of top-down planning with a bottom-up strategy of realizing individual projects on strategic locations. The Emscher Landscape Park formed the top-down plan, while the conversion of brownfields such as colliery sites and steelworks into individual parks formed the focus of the bottom-up strategy.

## 5.2 Historical Brownfield-to-Greenspace Projects

Although the concept of brownfield is a relatively recent phenomenon in policy and planning, it should be noted that the practise of converting derelict sites to public open space has a history that stretches back to at least the early nineteenth century. In their work tracing the origins of the largest gardens and parks in European metropolitan areas, Baltzarek and Schediwy (1981) arrived at ten land-use types which preceded these spaces: Natural Landscapes, Farmland, Public Lands, Open Lands, Commons, Feudal Grounds, Feudal Hunting Forests, Country Estates, Botanic Gardens, and Military Sites. Of these, this last category matches part of the contemporary definition of a brownfield (military lands), including fourteen of the 114 parks analysed: Wallring Park Hamburg [1819]; Champ des Mars, Paris [1878]; Marsfeld Park, Athens [1887]; La Ciudadela, Barcelona [1888]; Faelled Park, Copenhagen [1911]; Gurten, Bern [1959]; Fairview Park, Dublin [1950]; Park V. Saimov, Sofia [1955]; Donau Park, Vienna [1964]; Ojendorfer Park, Hamburg [1966]; Järvafältet, Stokholm [1970]; Olympia Park Munich [1972]; Amager Faelled, Copenhagen [1974]; Mokotowskiveld, Warsaw [1976]. The earliest of these parks – Hamburg's Wallring – is typical of a large number of fortifications around historic European cities which were converted to parks in the early 19th century, when the ramparts proved out-dated against foreign attacks. This practise is exemplified in the Netherlands, including schemes such as the Zocherpark in Utrecht.

A nineteenth-century park site that fits the contemporary definition of a brownfield park is Parc des Buttes-Chaumont in Paris, which opened in 1867. Prior to its designation the park site was a gypsum quarry, and later used to dump rubbish and as a knackers yard. This dubious history qualifies it as both mining land, dumping land and treatment land - a hybrid brownfield [Figure 5.2 & 5.3]. The dramatic topography of the present-day park is a result of the remodelling of the quarry landscape of cliffs and peaks.



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FIGURE 5.2 Travaux d'aménagement du parc des Buttes Chaumont, c. 1860. (Photo: Charles Marville 1813-1879, Bibliothèque nationale de France).

The designation of new parks in the first half of the twentieth century occurred almost exclusively on greenfield sites, with the exception of landfill projects such as the Parque del Oeste in Madrid. This site was the city refuse dump until its designation and transformation as parklands in 1906 [Figure 5.4]. The practise of converting refuse tips to parks such as Parque Del Oeste is perhaps the most enduring form of brownfield park type, something first seen at Buttes-Chaumont and persisting to the present day. In North America landfill parks go back to at least 1916, when the Rainier Dump in Seattle was turned into a Playground, followed by the conversion of the Miller Street Dump in that same city into part of the Washington Park Arboretum in 1935.[161] New York City also converted the Corona Dumps (the "Valley of Ashes" referred to in F. Scott Fitzgerald's The Great Gatsby) to the World Fair Parklands in 1939. From the end of the Second World War, sporadic initiatives for parks were commissioned on sites that fit the contemporary definition of brownfield. Vienna's Donau Park is realized on a former rubbish dump, parade ground and squatters' settlement in 1964, representing a hybrid brownfield park site [Figure 5.5].

## 5.3 Contemporary Brownfield-to-Greenspace Projects

Periodic initiatives similar to Donau park took place in the immediate post-war period, but from the 1970s the designation of parks on brownfields took on structural proportions. The project considered by many to be the first contemporary brownfield park was the scheme for Gasworks Park in Seattle. This coal-to-gas plant located on the north shore of Lake Union closed down in 1956 and remained unused for almost two decades, before it was converted to parkland in 1975 [Figure 5.6]. Other notable oil-land brownfields include the scheme for Griftpark in Utrecht, built on the site of another coal-to-gas plant that closed down in 1969, and re-opened as parkland in 1999. As discussed in the introduction, a similar plant in Amsterdam was shut down in 1967, and redesigned as public parklands (Westergasfabriek), which opened in 2003.

161 Harnik, 2010.



FIGURE 5.3 Parc des Buttes-Chaumont, 1867. Design: Jean-Charles Alphand. (Photo: Dick Sijtsma, 2017).



FIGURE 5.4 Madrid: Parque del Oeste, 1906. Design: Cecelio Rodriguez. (Photo: Manuel Martín Vicente, 2001).

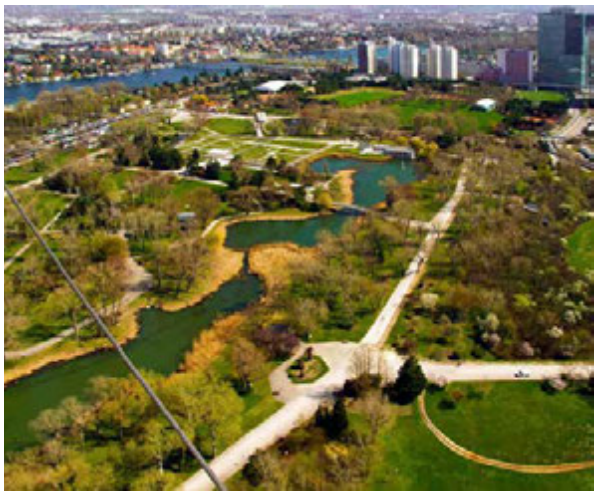


FIGURE 5.5 Donau Park, Vienna, 1964. Design: Alfred Auer. (Photo: Gerhard Weiss, 2000).



FIGURE 5.6 Gasworks Park, Seattle, 1975. Design: Richard Haag. (Photo: Richard Haag, 2000).



FIGURE 5.7 Parc del Clot, Barcelona, 1989. Design: Daniel Fraixa & Vicent Miranda. (Photo: Catalánfan67).



FIGURE 5.8 Parc de la Villette, 1987-1995. Design: Bernard Tschumi. (Photo: philharmonie de Paris, 2002).

A growing number of manufacturing and processing plants began to be converted to public open spaces parks in the 1980s in a number of key European cities. Prominent among these were the parks of Barcelona, realised in the post-Franco city era. A new political landscape lead to an extensive programme of urban renewal in the city featuring new parklands, aimed at demonstrating that a fresh political ideology could lead to a new urban society.[162] Many of these schemes were situated on former manufacturing and processing sites, such as Parc l'Escorxador (completed 1983) built on the site of a municipal abattoir, and Parc del Clot (completed 1986) created on a former rail maintenance facility [Figure 5.7]. But brownfield parks had begun emerging in Barcelona in the mid-1970s already, such as the scheme for Parc de la Crueta del Col (completed 1976) on the site of a former quarry.

As discussed in the introduction, the newly established APUR (Atelier Parisien d'Urbanisme) in Paris also drew up plans to convert derelict industrial sites in the inner city to parks to revitalize impoverished neighbourhoods in the early 1980s.[163] APUR proposed the creation of three new urban parks along the Seine and the city's canals, including Parc de la Villette (completed in stages between 1987 and 1995) on the site of a saleyards and abattoir [Figure 5.8], Parc André-Citroën (completed 1992) on the former Citroën car manufacturing plant, and Parc de Bercy (completed 1992) on the site of former wine depots. Other significant brownfield parks in the category manufacturing lands include Millennial park in Budapest (completed 2000), and Parco Dora in Turin (completed 2012).

The examples set by these projects lead to a growing number of transformations of redundant manufacturing facilities to parks including those realised in the Ruhr area between 1989 and 1999. Many of the derelict coking plants and steelworks complexes in the Emscher valley were partly or wholly converted to parklands during the IBA project years of 1989-1999. These sites were often hybrid combinations of mine-heads, coking plants, steelworks, storage areas, shunting yards, spoils heaps and tailings mounds, such as Landschaftspark Duisburg-Nord (completed in stages between 1989 and 2002) [Figure 5.9], Landschaftspark Nordstern (completed 1997) and Zollverein (completed 2002).

Other notable hybrid parks include the Sydney Olympic Park (completed 2000), a 500-hectare park built on the site of a derelict slaughterhouse, armaments facilities, brickworks and (7) rubbish dumps [Figure 5.10]. Around the same period, the city started plans to convert Cockatoo Island in Sydney harbour to public parklands. This small sandstone knoll, which served as penal colony, sandstone mine and shipyard over the course of two centuries, was opened up to the public in 2005. Continuing the tradition of using Olympic events as initiatives to convert brownfield areas to parklands, London's Olympic park was commissioned on the site of a vast agglomeration of industrial activities including paint production, petroleum refining, pharmaceutical manufacturing, lead processing, munitions production, dyeing and dry-cleaning operations. In the late 1980s plans were drawn up for the conversion of Paris' Vincennes elevated railway line, which had fallen into disuse in 1969, into a linear park. The 4.7 kilometres long Coulée Verte René-Dumont or Promenade Plantée was inaugurated in 1993. This scheme represents the first contemporary infra land converted to parkland, and served as a model for later parks. With more and more urban rail infrastructures falling into disuse, this type of project became increasingly more widespread. Notable infrastructure-to-parklands projects include Park Spoor Nord in Antwerp (completed 2009), and the High Line in New York (completed in stages between 2009 and 2015) [Figure 5.11].

162 Dettingmeijer, 1991.

163 APUR, 1981.



FIGURE 5.9 Landschaftspark Duisburg-Nord, Ruhr, 1994. Design: Latz + Partner. (Photo: Udo Becker, 2002).



FIGURE 5.10 Sydney Olympic Park. Design: Peter Walker. (Photo: Bob Peters Imaging, Hassell).

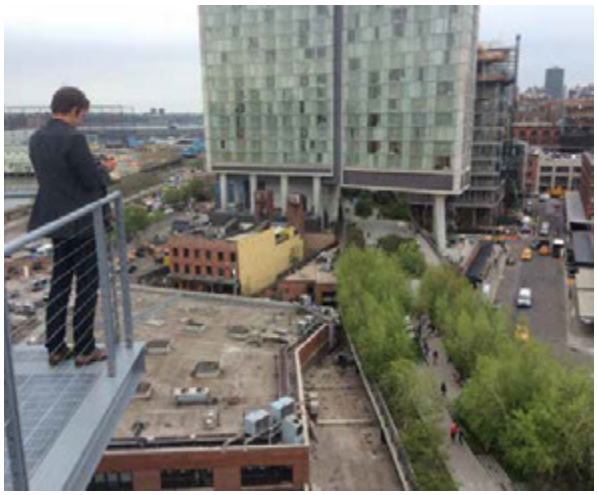


FIGURE 5.11 High Line, New York. Design: James Corner Field Operations, Diller & Scofidio, & Piet Oudolf. (Photo: author, 2015).



FIGURE 5.12 Fresh Kills Park, Staten Island, New York, 2008-2037. Design: James Corner Field Operations. (Photo:Geosyntec Consultants, 2015).



FIGURE 5.13 Halde Hohewaard, Recklinghausen, 2015. Design: Agence Ter Henri Bava. (Photo: Regionalverband Ruhr, 2015).



FIGURE 5.14 Museum Park Soesterberg, 2015. Design: HNS Landscape Architects. (Photo: Siebe Swart, 2015).

From the 1980s onwards, landfills were increasingly converted to public open spaces as shifts in waste management, increasing environmental controls and technological developments meant that many landfills were completed or shut down. Two of the largest and most significant landfill-to-greenspace conversions internationally are the Ariel Sharon Park in Tel Aviv, and the Fresh Kills Park in New York [Figure 5.12].

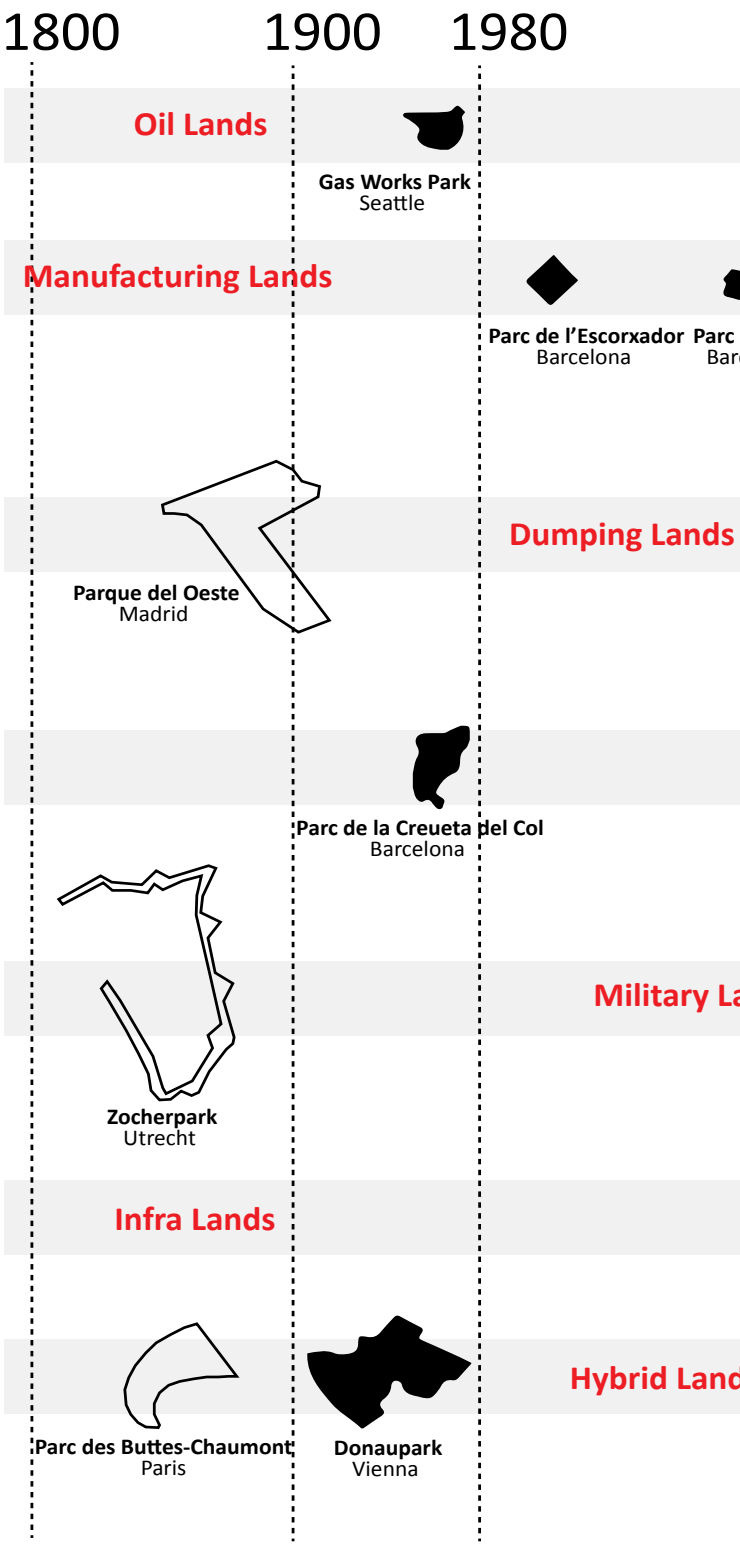
An increasingly common version of the landfill-to-greenspace conversion is the mine-tip park, facilities built on the sites of mine and steel production waste residues. This kind of park is widespread in the Ruhr area; Chmielewska & Otto (2014) identified at least 96 mine tips in the Ruhr agglomeration, 87 of which they noted had been revitalized into some form of public open space. The largest of these is Halde Hoheward in Recklinghausen, which is 152 metres high and covers an area of 175 hectares [Figure 5.13]. Transformation of these mounds often includes extensive recreational and leisure amenities, such as the Halde Prosperstraße, Bottrop (137m high, 60 ha), which was converted to an alpine centre complete with indoor ski slope and toboggan run in 2004. Other Ruhr mine-tip parks lie within urban neighbourhoods are often intensively used parks, such as and the Angerpark in Duisburg (60m high, 30ha, completed 2008), and Nordsternpark, a recreation hub with office and high-tech industry development (160ha, completed 1997).

A final category of brownfield park has been created from former military lands, a practice dating back to the early nineteenth century. Rapid developments in military technology and strategic shifts in defence budgets have released an increasing number of defence facilities, in particular air bases, from active use. One of the first large-scale air base-to-park development was Downsview Park in Toronto, home to de Havilland Aircraft factory (1929-1947) and then air force base CFB Downsview (1947-1996). Another significant air base-to-park initiative was the Crissy Field Park in San Francisco. This former U.S. Army airfield site, which closed as an airfield in 1974, was redesigned and opened to the public in 2001. In the decades following the end of the cold war, military airfields in NATO countries became increasingly superfluous. Soesterberg military airbase in the Netherlands for instance, was decommissioned in 2008 and re-opened as national military museum and parklands in 2015 [Figure 5.14].

By drawing the plan figure contours of these various parks, we can visualize the relative size of each different scheme related to the underlying typology of brownfield types. Placed in chronological order, we can also note the dramatic upsurge in brownfield-to-greenspace initiatives from the late 1980s onwards [Figure 5.15].

## 5.4 Choice of Case Studies

The 33 examples discussed above represent a long-list of the key brownfield park schemes from the period 1800-2015, from which a short list of sites (three) is to be chosen as case study material. The range of criteria to determine which parks to examine presents a particular challenge for the research. A first filtering of case studies may be done by focussing on a particular period, such as schemes realized in the 'twilight of Modernism' (i.e. on sites arising by de-industrialization processes in the post-war period). Using this criteria, the focus of the investigation may be further sharpened by focussing on brownfield parks realized in the period after 1970, given that from this period onward that the conversion of brownfields to public open spaces only really commenced on a structural level in the 1970s. This filter thus excludes Parc des Buttes-Chaumont, Parque del Oeste, Donaupark, and Zocherpark. Complementarily, a selection of parks can be made from consecutive periods of design and construction, based on the hypothesis that successive design teams respond to and build on the work of earlier teams.


1800
1900
1980
Oil Lands
Gas Works Park
Seattle
Manufacturing Lands
Parc de l'Escorxador
Barcelona
Parc
Dumping Lands
Parque del Oeste
Madrid
Parc de la Creueta del Col
Barcelona
Military La
Zocherpark
Utrecht
Infra Lands
Hybrid Land
Parc des Buttes-Chaumont
Paris
Donaupark
Vienna



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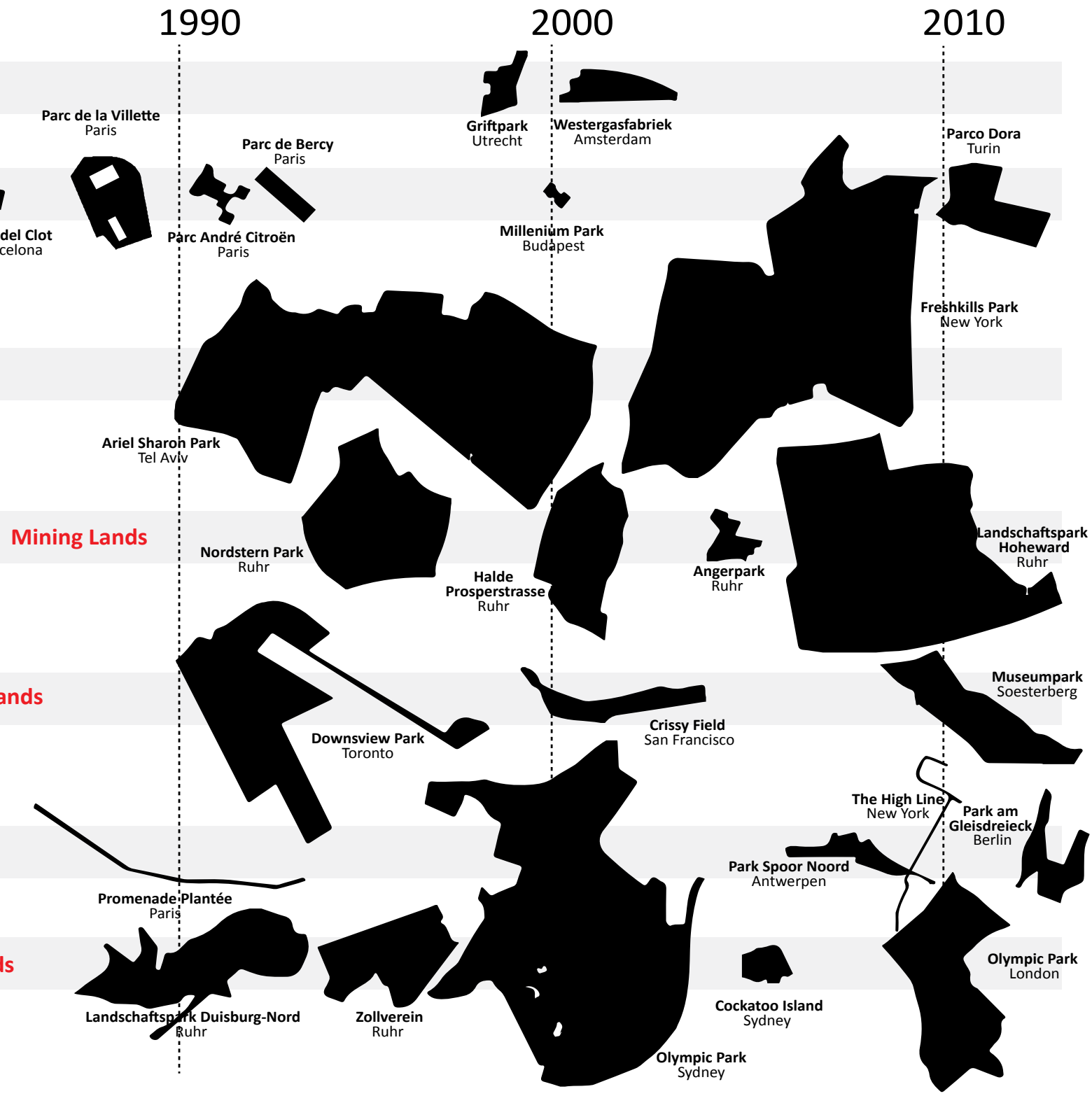



FIGURE 5.15 Timeline & Plan Figures of Key Brownfield Parks 1800-2015.



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To narrow down the selection further, a criterion may be to filter out a representative spectrum of parks per brownfield site typologies (oil lands, manufacturing lands, dumping lands etc.). However, in addition to the problem of there being more categories of brownfields than cases to be studied, there is an added challenge of examining parks with contrasting morphological and material characteristics, as informed by their differing origins. An option may be to consider only those schemes that are located in (predominantly) residential areas, and thus expected to have addressed a broad spectrum of landscape design themes, such as socio-spatial aspects. A new problem with this approach however, is that each urban context is highly different to the next, requiring an elaborate analysis of the various (contextual) factors and a subsequent choice of schemes based on quantifiable and qualifiable parameters. The context of the various schemes also includes the political, cultural and economic 'environment' at the time of their designation, design and construction. The budget for the High Line (per square metre for instance), vastly exceeds all of the other brownfield parks realized in the period 1975-2015.

An alternative approach is to develop selection criteria based on the framing discussion of composition in landscape architecture, as elaborated in chapters one and two. This would imply that selected schemes should demonstrate an engagement with the themes noted in the discussion of 'garden' and 'territory', as well as aspects touched on in the consideration of the terms 'landscape' and 'composition'. Complementary to this choice are aspects which come together in the discussion of the Delft method in chapter two: an iteration of landscape architectural composition that is dynamic and open-ended (expanding on the programme form procedure); an understanding of the term landscape as a set of systems, processes and practises interacting together in a particular territory in particular social and ecological aspects (also related to programme form); the addressing of kinaesthesia and the sensorial and visual articulation of a designed landscape (revising the operation spatial form); the elaboration of meaning in a designed landscape in relation to reception and signification (as a critical review of the procedure image form); and attention to the modification of an existing condition - an obsolete (industrial) site - to another condition - a park, whereby translation forms the primary driver of the design (revising basic form).

A new problem emerges here however. An analysis of each of the long-listed park in relation to these themes is plainly impractical in the scope of one PhD research. A viable alternative then, would be to establish the 'topical weight' of each scheme based on the available literature on each park. An added advantage of this approach is the ability to build on and incorporate the highest volume of academic (and where relevant the non-academic) literature on the chosen schemes. The choice of parks to examine using this criteria is thus promptly made: Parc de la Villette, Landschaftspark Duisburg-Nord and the High Line are universally recognized in academic and professional circles, to the point that they have reached the status of 'iconic (brownfield) park'. By extension, the amount of literature on each of these parks also far exceeds the other parks from the long-list. From a thematic perspective, topics emerging in the literature on the parks include:

- **Parc de la Villette:** Composition, Program(ming), Social Design, Site, Context & Place(making, Meaning and Experience).
- **Landschafstpark Duisburg-Nord:** Site, Experience, Semantic Multiplicity, Conceptions of Nature, Natural Systems & Processes, Designing for Social Interaction.
- **The High Line: Site**, Motion & Experience, Nature, Meaning & Reception, Temporality & Process, the Social, and Materiality.

In conclusion, the case study parks to be looked at in more detail in the following chapters is:

- Parc de la Villette, Paris;
- Landschaftspark Duisburg-Nord, Ruhr;
- The High Line, New York.

# PART 3 Case Studies



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# 6 Case Parc de la Villette

## 6.1 Introduction

Parc de la Villette lies in the outer corner of Paris' nineteenth arrondissement, bordering the Boulevard Périphérique [Figure 6.1 and 6.2]. This fifty-five hectare site was a former meat market and abattoir complex that began operations in the mid-nineteenth century but fell into disuse in the 1950s. After a failed attempt at revitalization the site was handed over to the state in 1970, after which a series of repurposing plans including low-income housing, small industry and public facilities were attempted. In 1978, President Giscard d'Estang announced the decision to convert the site to public parkland, a museum of science and an auditorium. Thereafter, shortly after his election, president Francois Mitterand announced the competition for the 'Parc de la Villette' in 1981 as part of his *Grands Projets* initiative. The competition attracted 472 entries by landscape architects, architects and urbanists from thirty-seven countries. In the first round, a 21-member jury chaired by Roberto Burle Marx jointly awarded the first prize to seven landscape architecture teams and two architecture teams. In a second round, a team lead by French-Swiss architect Bernard Tschumi - including Luca Merlini, Alexandra Villegas, Luca Pagnamenta, Galen Cranz, Phoebe Culter, William Wallis, Jon Olsen and Thomas Balsley - was announced winner. Tschumi was subsequently appointed chief architect of the park. Construction of the park began in 1985 and was completed in stages between 1987 and 1995.

Thirty-five hectares of the site is public parkland; the remainder is taken up by the national science museum (Cité des Sciences et de l'Industrie), the repurposed nineteenth-century Grande Halle, and a national centre for music and dance (Cité de la Musique) [Figure 6.3]. Although integrated into the park layout, the science museum and music centre are run independently to the park. Other built functions include the twenty-seven iconic red *folies*, the Zénith concert hall, an equestrian centre (Centre Équestre de la Villette) show venues (Cabaret Sauvage, l'Espace Périphérique, Espace Chapiteaux) and a series of pavilions for various functions (De la Bourse, Janvier, Des Maquettes, Le Charolais, Paul-Delouvrier). Plans for the construction of the auditorium (Philharmonie de Paris) were delayed for twenty years, but in March 2006, the Minister of Culture and Communication, the Mayor of Paris and the Director of the Cité de la Musique announced a competition for its design, which was won by architect Jean Nouvel. The hall opened in January 2015, and adjoins the Cité de la Musique on the site of the former parking area. Given its recent construction, this feature is not included in the analysis.

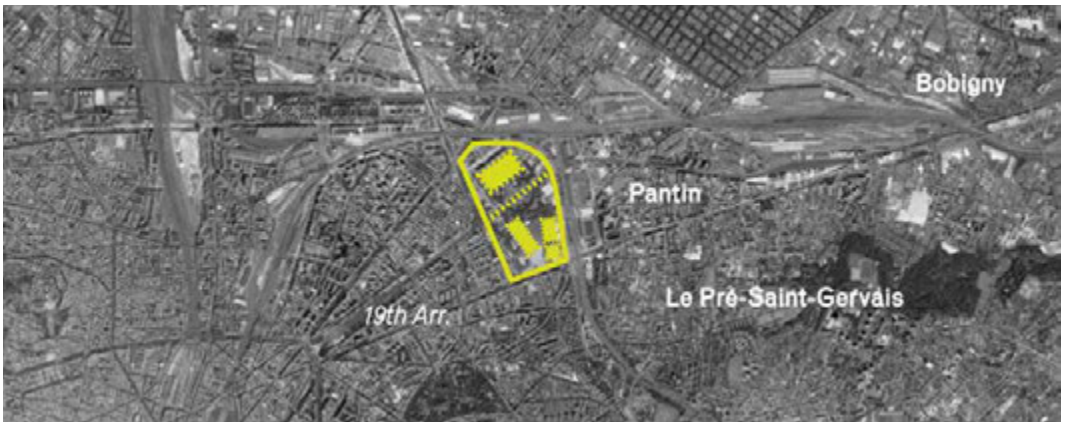



FIGURE 6.1 Parc de la Villette and urban context. (Base Image: Google Earth).



FIGURE 6.2 Parc de la Villette, 2017. (Photo: Dick Sijtsma).




FIGURE 6.3 Overview of Key Features, Parc de la Villette. (Base Image: Google Earth).

## 6.2 Landscape Context and Historical Development of the Park Site

The City of Paris has an area of 105 square kilometres and is divided into 20 municipal districts (Arrondissements) whose numbering begins in the centre and spirals clockwise outward. Parc de la Villette lies in the outer limit of the nineteenth arrondissement and is the largest of the sixteen parks in the city. Topographically, the park is situated in a relatively flat plain between the hills of Buttes-Chaumont and Butte de Montmartre, which rise to a height of around 100 metres [Figure 6.4].
This topography forms part of the Bassin Parisien, a low-lying continental shelf region that was regularly submerged by seawaters over geologic time, leaving considerable marine sedimentary deposits behind. Rivers draining the basin cut channels into the deposits, which formed the macro topography of the region. The Seine is the largest river in the basin, rising in the hills north of Dijon and flowing in increasingly larger loops before emptying into the North Sea on the Normandy coast. Tributaries of the Seine include the Aisne, Aube, Barse, Eure, Orge, Yvette, Loing, Marne, Oise, Epte, Risle and Yonne. Other waterways connect to the Seine, including the network of canals in the east of Paris, the Canal de l'Ourcq, Canal St-Denis and Canal St-Martin. The park site is divided in two by the Canal de l'Ourcq, a 108 km canal that begins at the River Ourcq and ends at the Bassin de la Villette, a few hundred metres west of the site. Here it connects up to the Canal St-Martin, which flow into the Seine near the Gare de Lyon.

### 6.2.1 1700-1800

The history of the park site is a history of urban transformations over three centuries. The first major urban transformation of the area occurred in the eighteenth century, a period in which Paris grew from under 100,000 inhabitants to more than half a million. Prior to this the site lay in an open agrarian landscape beyond the limits of the eighteenth-century city and its toll barriers (Mur des Fermiers Généraux). With the construction of two arterial roads leading out of the city towards Flanders (Rue de Flandre) and Germany (Rue d'Allemagne) under the reign of Napoleon, the city began to spread outwards, encroaching on the park site area [Figure 6.5]. In the course of the eighteenth century, a new settlement developed along the Rue de Flandre beyond the Fermiers Généreux, with country cottages, wayside inns and cafes. This hamlet, named La Villette (literally 'small town') became a place where Parisians came to relax and amuse themselves in the inns and cafes, and enjoy dances and performances. Traces of the perpendicular parcelling of land and access lanes developed along the route still exist in the current city plan. Between 1784 and 1791 architect Claude Nichola Ledoux was commissioned to design 62 toll barriers in the Mur des Fermiers Généraux. He built a double gateway to the city on the Rue de Flandre and the Rue d'Allemagne: the Rotonde de la Villette. As a result of the financiers of the Rotunda's insistence on keeping the revenue from the cabaret, the Rotonde was located on a separate location between both gates on the site of a former cabaret venue.[164] This design has had a major effect on ensuing urban form, in particular the alignment of the Canal de l'Ourcq and the Bassin de la Villette.

164 Huet, 1993.

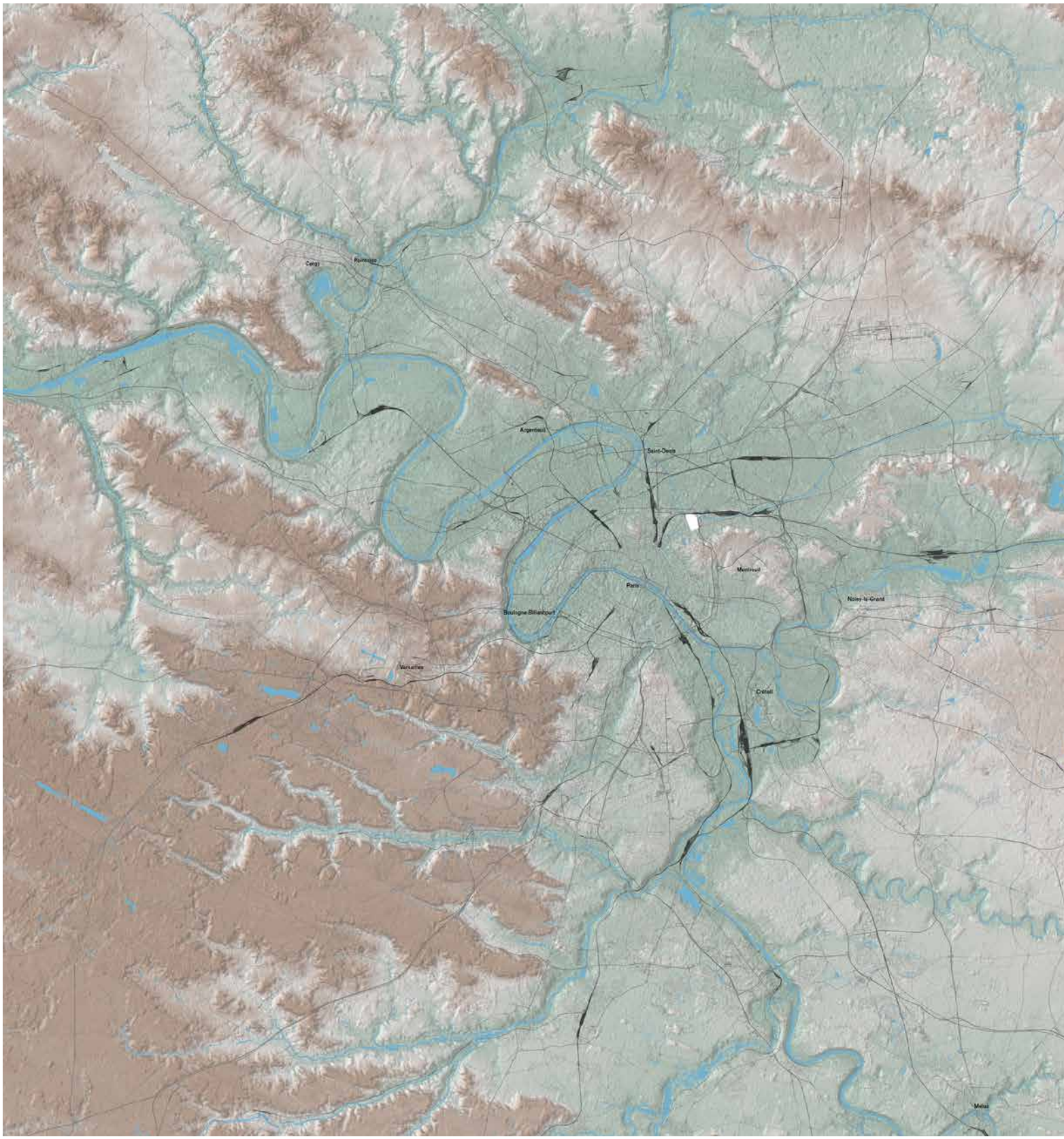



FIGURE 6.4 Park site in relation to the Natural and Urban Landscape of the Paris region. (Image: Michiel Pouderoijen).



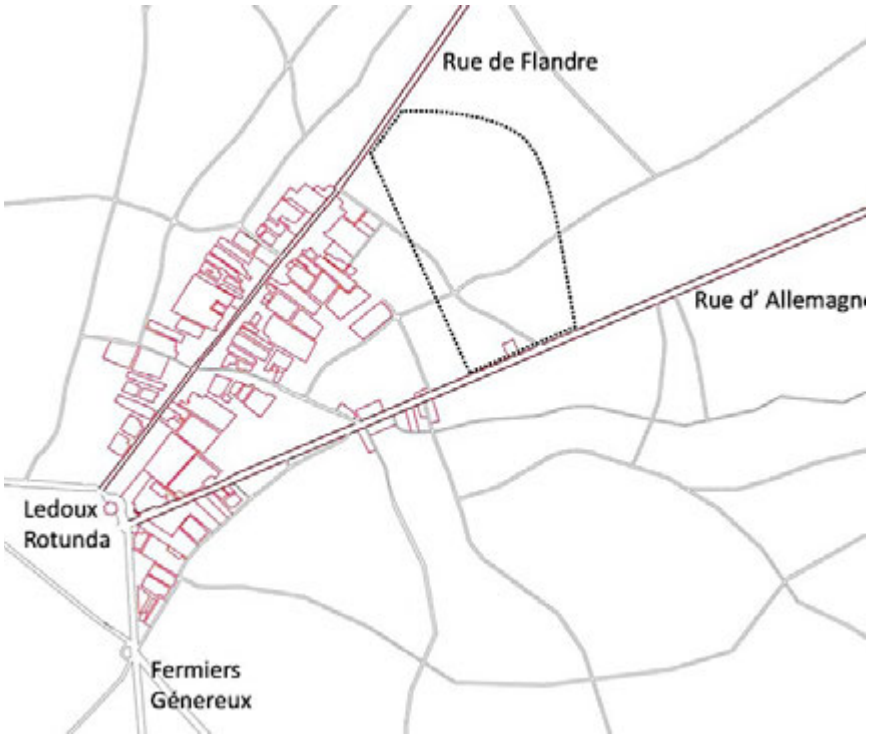



FIGURE 6.5 Development of morphology site and context, late 18th century. (Drawing: Tim Peeters)

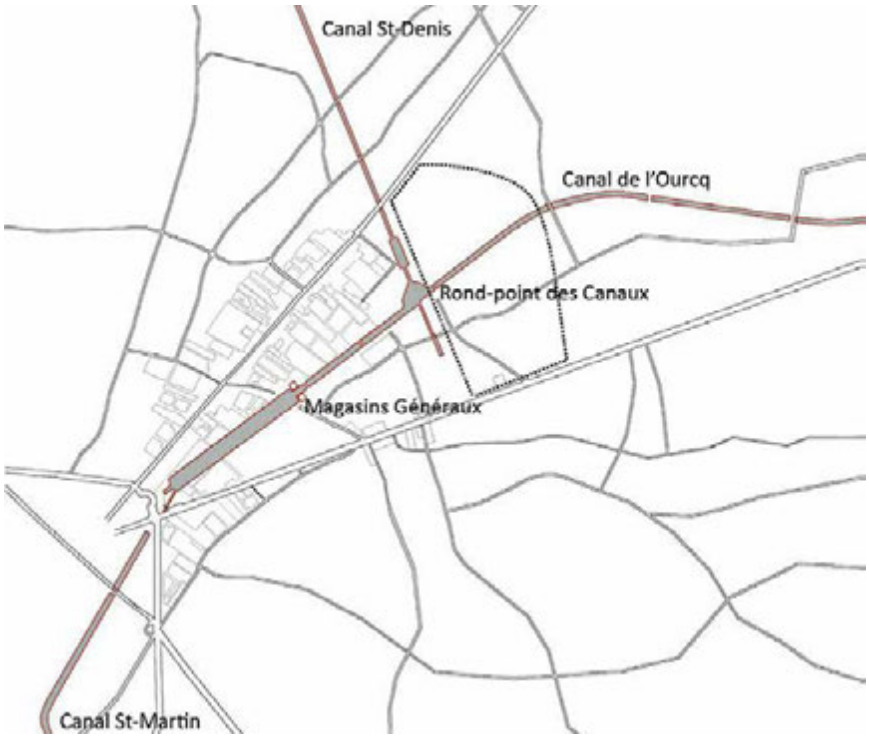



FIGURE 6.6 Development of morphology of site and context, Early 19th century. (Drawing: Tim Peeters)



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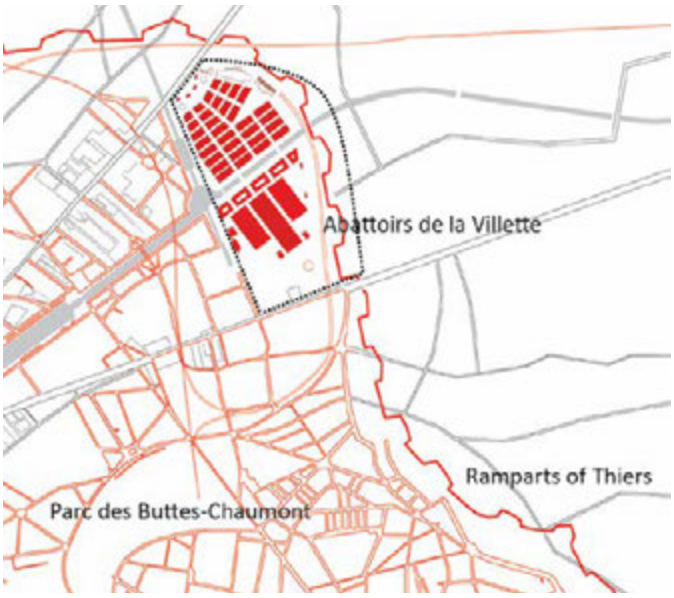



FIGURE 6.7 Development of morphology of site and context, late 19th century. (Drawing: Tim Peeters).

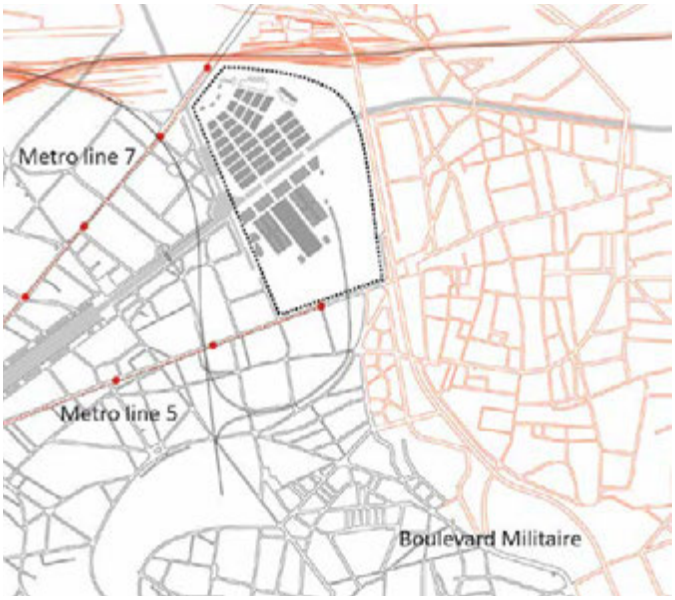



FIGURE 6.8 Development of morphology of site and context, early 20th century. (Drawing: Tim Peeters).

## 6.2.2 1800-1850

During the early nineteenth century, the population of Paris grew to more than 1 million, and the demands of the growing metropolis led to the construction of major new infrastructural works in and around La Villette. Between 1802 and 1815, Napoleon I commissioned the construction of the 108 kilometre long Canal de l'Ourcq for fresh water supply, from Port-aux-Perches near the village of Troesnes, where it splits from the channelled River Ourcq, to the Rotonde de la Villette [Figure 6.6]. Engineers modelled the last segment of this feature into an 800 metre long, six-hectare large basin on the axis of the Rotonde to form the present-day Bassin de la Villette. Its symmetrical composition was later bolstered by the construction of the twin buildings of the Magasins Généraux at the eastern end of the basin. The Canal St-Martin was also constructed in this period, connecting the Bassin de la Villette to the Seine in the south via the Bassin de l'Arsenal. A third canal was dug between a meander of the Seine in the north to the l'Ourcq canal system: the Canal St-Denis. This canal shortened the river journey over the Seine and led to the rapid development of transport over the canals, with industrial and warehouse development springing up along the canal routes. The junction of the Canal de l'Ourcq and the Canal St-Denis was widened into a turning basin (Rond-point des Canaux), which now borders the park. In this period the area beyond the Mur des Fermiers Généraux was progressively sub-urbanized in so-called 'faubourgs', developments which contrasted to the dense and ordered fabric of the arrondissements inside the Mur des Fermiers Généraux.

### 6.2.3 1850-1900

The La Villette area underwent further major transformation during the reign of Napoleon III. In 1860 the village of La Villette was annexed in the expansion of the city from twelve to twenty arrondissements, around the same time that a new military defence wall, L'enceinte de Thiers, was constructed around the city [Figure 6.7]. The most extensive transformation however, were the works carried out in the city under the direction of George-Eugéne Haussmann (1809-1891), who oversaw the construction of avenues, squares and parks for the growing capital. Hausmann also presided over the construction of a 40-hectare cattle market and abattoir complex on the site of the present-day park in 1867, turning the site into one of the largest industrial complexes in nineteenth-century Paris. The cattle market was situated to the south of the Canal de l'Ourcq and accessed via the Rue d'Allemagne and a newly built railway, the Petit Ceinture. Three large halls designed by Louis-Adolphe Janvier (1818–1878) held cattle during sales. The largest of these, the Grande Halle aux Boeufs was 240 metres long and 87 metres wide. The abattoir itself was sited on the north bank of the Canal and accessed via bridges across the Canal de l'Ourcq. A major arterial railway network linking Paris to European cities and terminating in Gare de L'Est railways was also built in this period.

### 6.2.4 1900-1950

By the early twentieth century the l'Enceinte de Thiers had become obsolete and was dismantled, leaving a ring of vacant land surrounding Paris, which was initially occupied by slums and squatters. The increase in motorised traffic lead to the construction of a dual carriageway ring road around the city: the Rue Militaire, which was later replaced by Boulevards des Maréchaux [Figure 6.8]. In this period the eastern railway emplacement was also widened, and Métro de Paris lines seven and five were constructed, with Line 7 to Porte de la Villette opening in 1910 and Line 5 from Gare du Nord to Eglise de Pantin opening in 1942. Urban development in the area continued, with the building of warehouses, industrial complexes and housing in the nineteenth arrondissement, and in the area beyond the Boulevards des Maréchaux: the present-day suburbs of Aubervilliers, Pantin and Le Pré-Saint-Gervais. In 1923 the Canal St-Denis and the Canal de l'Ourcq were deepened and their locks extended.

### 6.2.5 1950-2000

After the Second World War, refrigeration and decentralization threatened the viability of the abattoir and selling yards, but a new abattoir was nevertheless constructed on the site of the old building. This complex - the Grande Salle des Ventes - operated until 1974. A two-ring, multiple-lane motorway (the Boulevard Périphérique) replaced the Boulevard des Maréchaux in 1973, and the Gare de l'Est rail emplacement and the Paris metro and RER network expanded rapidly in this period [Figure 6.9]. Urban development around the site continued in the post-war period, with cultural and commercial facilities developing along the Rue de Flandre and the Avenue Jean Jaurés. Land occupied by warehouses and industry in the area was progressively made available for housing development following decentralization and urban renewal. These developments included high tower blocks such as Belleville hill and elsewhere in the nineteenth arrondissement.

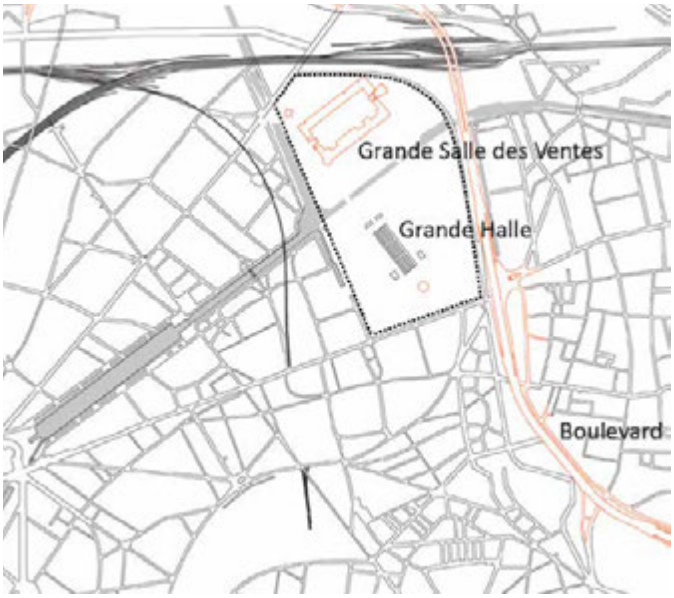



FIGURE 6.9 Development of morphology of site and context, late 20th century. (Drawing: Tim Peeters).

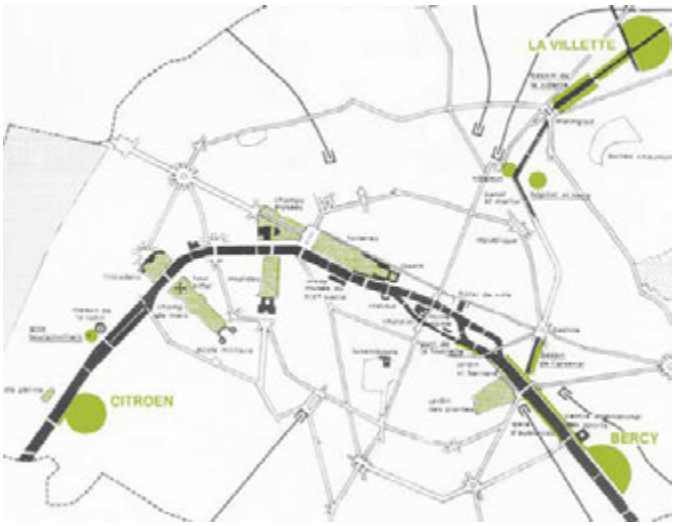



FIGURE 6.10 Development sites along the Seine and its Canals. (Image source: APUR).

The potential of the site for the development of northeast Paris prompted a series of initiatives by the city such as low-income housing, markets and a small public park. Eventually the Federal government, which had formally taken over control of the site from the city of Paris in 1970, announced a new plan for the location under president Valéry Giscard d'Estang, who had initiated a series of projects in and around the capital. His successor, François Mitterand (1916-96) amalgamated the projects into the Grands Projets, timed for the celebrations of the bicentennial of the French Revolution in 1989. The la Villette site was seen as a key location in the Grands Projets initiative and led to three projects planned on the one site: a museum of science and technology (Cité des Sciences et de l'Industrie), a music centre (Cité de la Musique) and a public park. An administrative organisation - the EPPV (Etablissement Public du Parc de La Villette) was set up and funded by the French government in 1979 to develop the projects and initiated the 'Concours International Parc de la Villette', the competition that led to the design of the current park.

The competition brief for the new park was back-dropped by a review of public open spaces in Paris by the *Atelier Parisien d'Urbanisme* (APUR). The APUR report was symptomatic of shifts in design thinking and in approaches to park planning and public (open) space policy by urban administrations in European cities emerging in the late 1970s.[165] Criticism focused among other things, on the decline of landscape architectonic form and the increasingly generic nature of urban green spaces in twentieth century cities. In Paris, the upheaval within the spatial planning and design disciplines was thus ushered in by APUR, which replaced many modernist planning dogmas with a new urban architecture paradigm and the return of centralist thinking. Parks and public open spaces featured prominently in the APUR's vision: a review of public open spaces of the city of Paris drawn up in 1981 criticized the technocratic nature of green space and the lack of identifiable, culturally relevant urban parks and gardens. In the report, the APUR proposed the creation of three new urban parks on derelict industrial sites on the edges of the city: Parc de La Villette, Parc André Citroën and Parc de Bercy [Figure 6.10].

165 APUR, 1981.

### 6.2.6 The Site in 1982

At the time of the park's designation, the site had undergone a series of urban transformations over more than three centuries. Topographic variations had been effectively erased and the site was, with the exception of the Canal de l'Ourcq, more or less flat and featureless. Soil and vegetation had also been transformed: in his study, Baljon (1992) noted that the site, which he visited during the competition phase, was virtually denuded of vegetation and "had been completely built on or paved".[166] Successive developments had transformed the surface layer of soil from its original clay composition to a melange of sand, rubble, asphalt and concrete. Aside from the form of the park's various boundaries, the only physical features left on site were the canals and remaining on-site structures: the Grande Salle, the Rotunda des Veterinaires, the Grand Halle, the pavilions De la Bourse, Janvier, Des Maquettes and Le Charolais, and the Fontaine aux Lions [Figure 6.11].

Transformations had also altered much of the natural and cultural landscape context of the site. Water features such as the thirty metre wide Canal de l'Ourcq crossed the site from east to west, the Canal Saint-Denis formed its western edge and the Petit Darse, a small harbour in the extension of the Canal Saint-Denis extended this line and formed the western boundary of the site. Two major regional thoroughfares – the Avenue Corentin Cariou and the Avenue Jean Jaurés formed the north and south boundaries of the site while the motorways and associated infrastructure of the Boulevard Périphérique, and the train and RET rail lines formed the eastern and northern borders. Urbanization had also transformed the larger urban context. By 1982, the site lay in a transition zone between the loose-knit urban fabric of the nineteenth arrondissement and the open, more irregular fabric of the inner north-eastern suburbs of Aubervilliers, Pantin and Le Pré-Saint-Gervais. Major infrastructural networks traversed the area, separating the territory into islands. Only a few cultural landscape features survived the urbanization process such as former agricultural roads and paths: Rue Riquet, Rue de Nantes, Rue des Ardennes, Rue de Meaux, Rue des Curiel, Rue de Argonne and Rue de Thionville. These had been integrated into the contemporary urban morphology. Of these conditions Baljon (1992) is similarly perplexed: "linking the park to the city, which is chaotic, unclear, noisy and distant; the largely problematical contours of the site; the large buildings; the bridging of the canal; the more or less subtle relics".[167] These conditions left a site, which can be typified as a contemporary Brownfield: a post-industrial landscape in which multiple transformations of the territory have occurred [Figure 6.12].

166 Baljon, 1992, p. 32.

167 Baljon, 1992, p. 37.




FIGURE 6.11 Site Plan Parc de la Villette. (Source: EPPV).




FIGURE 6.12 Parc de la Villette and its urban context. (Source: EPPV).

## 6.3 Design Approach & Project Reception

In his own words, Tschumi's proposal was a distinctive and innovative urban park that more than just a variation of the existing type.[168] He elaborated on this vision in a number of polemical texts prepared during and after the competition, in which fundamental tenets of the urban park tradition such as the *rus in urbe* principle were challenged. From the outset, the scheme was the focus of unprecedented attention and debate, eliciting commentary and critique from various professional fields, and prompting a spate of scholarly activity in a range of disciplines. Tate (2001) concluded that Parc de la Villette "... probably became the most written about - and mimicked - urban park since Central Park in New York".[169] Interest in, and discussion of the Tschumi scheme was also catalysed by drawings and images generated for the submission, evocative and innovative representations portraying among other things the proposal's complex layering strategy [Figure 6.13]. Particular to the project too – and relevant for the discussion of the design approach and the scheme's reception – is the contribution of the competition brief to the discourse. The brief was credited with catalysing a new curiosity and concern about urban parks, and with sparking off a period of increased discussion and park designation and design activity internationally.[170] The discourse emerging from these sources centres around the themes of composition, park & city, programming, social design, place, meaning and experience.

168 Tschumi, 1987.

169 Tate, 2001, p. 56.

170 Boersma & Ter Haar, 1991.



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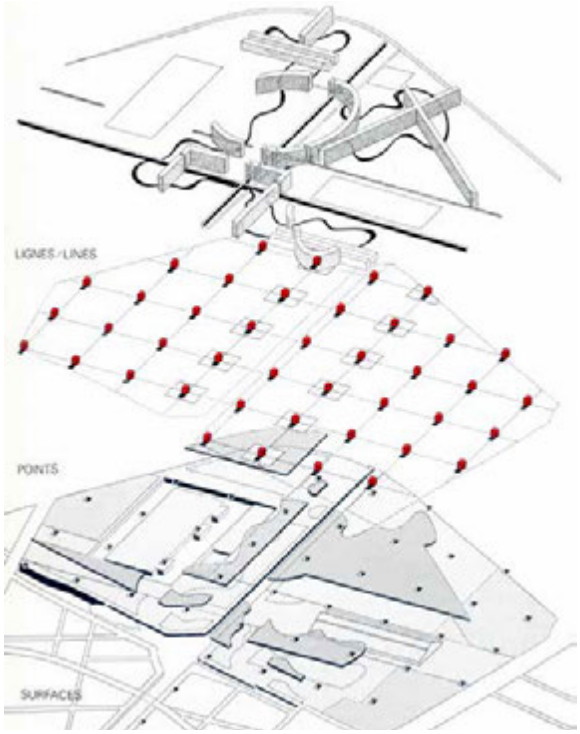



FIGURE 6.13 Competition submission drawing showing superimposition of three systems - points, lines, surfaces. (Image source: Tschumi, 1987).

### 6.3.1 Composition

Of relevance to the research is the fact that composition has been a central topic in the reception of the project, noted as it was in the briefing documents, and forming a critical topic in the Tschumi scheme. Indications of an alternative approach to composition were already introduced by the competition brief however, which noted of the irregular form of the site and the remnant assortment of historical buildings and infrastructure, and called for them to be united as spatial ensemble in a novel way. The brief also posited the park as a catalyst for urban renewal in the area at both a local and a district scale, as a new centrality in the institutional development of the north-eastern suburbs. This mandate demanded a response to the continuing fragmentation of the (surrounding) city and a contemporary expression of the notions of city and landscape: the park was to either create a new coherent ensemble from these fragments, or express the city's fragmentation in other ways.[171]

Tschumi put forward his own specific aim in relation to composition: "to prove that it was possible to construct a complex architectural organization without resorting to traditional rules of composition, hierarchy and order."[172] The approach taken was termed abstract mediation: the introduction of a new order that would mediate between site, programme and idea. A central feature of this approach was a grid of red-coloured steel pavilions, the folies. Tschumi had experimented with folies in design studio

171 EPPV, 1982.

172 Tschumi, 1987, p. vii.

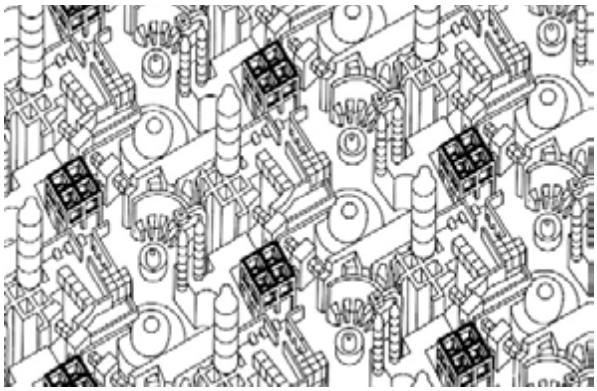


FIGURE 6.14 Drawing from the studio project Joyce's Garden, 1976-77. (Image source: Tschumi, 1987).

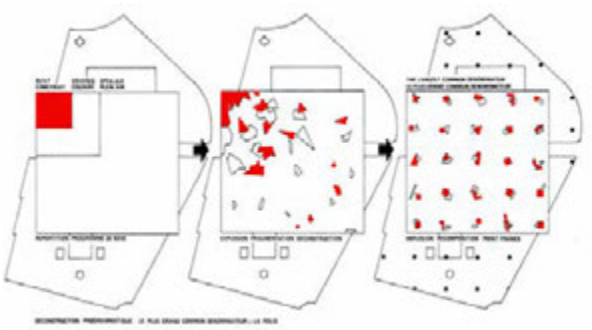


FIGURE 6.15 Exploding programmatic requirements throughout the site. (Image source: Tschumi, 1987).

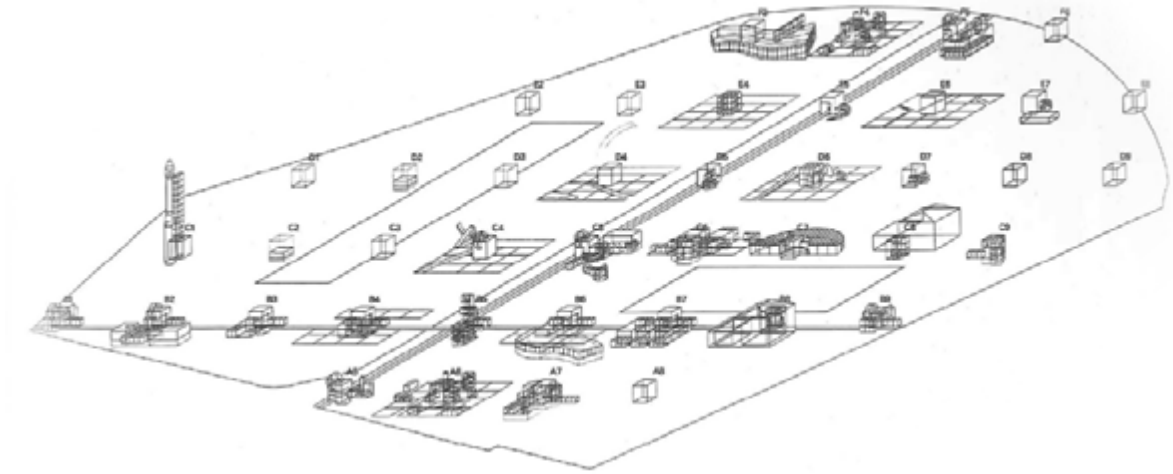


FIGURE 6.16 Distribution of Built Masses Across the Site. (Image source: Tschumi, 1987)

setting with students - Joyce's Garden - in which a (folie) grid mediated between two systems: a literary text (Finnegans Wake) which formed the 'programme' of the project, and an architectural text (the urban fabric of Covent Garden in London) [Figure 6.14]. The submission for Parc de la Villette was mooted to reformulate this idea by 'deconstructing' the programme and distributing it across the site in a series of pavilions [Figure 6.15]. Each folie was to begin life as a 10.8 metre x 10.8 metre x 10.8 metre cube located on a point-grid at 120 metre intervals. The cube was to be decomposed into fragments or added to with other elements. Depending on demands, the programme for each folie was to change regularly. In other writings, the (folie grid in the) park was conceived as part of "...one of the largest buildings ever constructed — a discontinuous building but a single structure nevertheless, overlapping the site's existing features and articulating new activities" [Figure 6.16].[173]

173 Ibid., p. 1.



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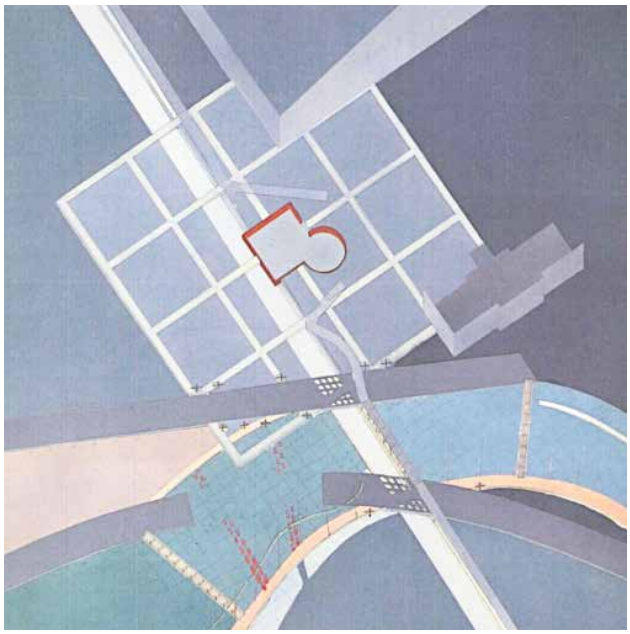


FIGURE 6.17 Superimposition landscape: points, lines, surfaces. (Image source: Tschumi, 1987).

Two other layers - the 'lines' and 'surfaces' - were included in the (composition) diagram. The lines included three linear systems formalizing movement through the park: Galerie de la Villette and Galerie de l'Ourcq (covered passageways which followed the alignment of the canals and connected to the urban context); Allée du Zénith, Allée du Belvédère and Allée du Cercle (broad, tree-lined avenues linking key activities within the park); and the Promenade de Jardins (a garden walk meandering between the twelve themed gardens). The third layer was a series of surfaces with varying textures corresponding to different programmes, which required large areas of open-air horizontal space. The theme gardens also formed part of the planes layer, with the initial scheme envisaging over fifty different gardens (but which in the final scheme was reduced to twelve). Together these systems form the three-layer diagram of lines, points and surfaces that has become universally synonymous with Parc de la Villette. Each of the three component layers was seen to represent a separate system or 'text', maintaining their differences and avoiding hierarchies.[174] This approach stemmed from Tschumi's earlier theoretical work, which questioned the idea of structure and composition, in line with contemporary research on literary texts, "... the superimposition of three coherent structures can never result in a super-coherent mega-structure, but in something undecidable, something that is the opposite of a totality."[175]

New layers were also welcome in this approach, for instance in the form of additions to the folies or new gardens, as long as they were discordant with the system. While each independent layer can be said to have its own compositional order, seen together the point grid, linear elements and surfaces form a complex figure whose arrangement is a priori indeterminate. It is as it were, a composition 'in the making', the ingredients but not the composition itself. This vision was communicated patently in the many evocative design drawings, some of which literally showed the layers 'floating' and 'colliding' in mid-air [Figure 6.17]. In Tschumi's view, composition is a layering of different orders responding to

174 Ibid., p. IV.

175 Ibid., p. VII.



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a diversity of functional or contextual factors and expressive of the multiplicity of societal orders but with no specific intention to synthesize these into a compositional whole; indeed the idea of compositional harmony he emphatically rejected: "The independence of the three superposed structures thus avoided all attempts to homogenize the park into a totality".[176]

Tschumi's ideas prompted varying responses in the literature. Wigley, in Broadbent (1991) observes that the result of the superposition of layers at Parc de la Villette is "a series of ambiguous intersections between systems ... in which the status of ideal forms and traditional composition is challenged. Ideas of purity, perfection and order become sources of impurity, imperfection and disorder".[177] Similarly, Baljon (1992) notes that the superimposing of systems "goes against our idea of structure (in the sense of a traditionally ordered context)" but at the same time critically contends that the patterns were "insufficiently independent".[178] On the same subject, he reflects on the developing synthesis in the scheme between the first and second round submissions, observing that: "more and more the composition becomes tight, well-knitted and harmonious".[179] Tate (2015) notes that the introduction of the galeries in the second round submission create a regular, almost classical axiality, reinforcing the rigidity of the *folie* grid.[180] Notable is the repeated consideration of composition from a formal (architectural) perspective. Meyer (1991) hints at an alternative understanding of composition in observing that Tschumi's three-layered schema of lines, points and planes might have benefited from a fourth layer – the underlying landscape itself.[181] She goes on to state that the Tschumi scheme, in drawing on formal strategies from outside the landscape discipline such as literary criticism, cinematography, modern art and architecture, is a radical departure from the pre-La Villette urban park, and a conscious making of a new park from fragments of other disciplines and operations. Tate (2015) reflects on the opportunity missed by Tschumi to contribute to the discipline more fully by taking it more seriously.[182]

### 6.3.2 Park & City

A second theme in the discourse – the relationship park-city – overlaps with the discussion of composition. The detailed and ambitious briefing documents were the primary catalyst for discussion on the park-city relationship, positing the project as they did as a model for the urban park of the twenty-first century. It took a critical stance on the evolution of urban parks in Paris, describing their decline from the vital, social and cultural hubs of the seventeenth and eighteenth century to the contemporary stock of impoverished green spaces that had lost their importance as centres of activity for urban communities. Three principles were outlined in the brief to address this: "the creation of a

176 Ibid., p. VII.

177 Wigley in Broadbent, 1991, p. 17.

178 Baljon, 1992, p. 211.

179 ibid, p. 208.

180 Tate, 2015.

181 Meyer, 1991.

182 Tate, 2015.



FIGURE 6.18 North-South Gallery. (Image source: Tschumi, 1987).

complex", "an original cultural project" and "an urban decision."[183] The first principle was based on a critical mass of important and varying facilities, the second on a unique mix of high and low culture, and the third on the creation of a new urban centre for the eastern suburbs. Baljon (1992) notes that, "the programme makes it clear that the Parc de la Villette has not been conceived as a green oasis of tranquillity within the city, is not a tribute to the beauty of threatened nature and is not a reflection of pastoral countryside."[184] The critical mass of facilities included functions and events that one might find in a thriving city quarter. Steenbergen and Reh (2011) contend that the competition programme in fact "embraced all the cultural activities associated with life in a city centre - except dwellings."[185] In their submission, the Tschumi team underlined the stance of the brief, contending that the concept of the park could no longer be separated from the concept of the city. Tschumi (1987) dismisses the historical ideal of the park as oasis in the city, stating that "Hence we oppose the notion of Olmsted, widespread throughout the nineteenth century, that " 'in the park, the city is not supposed to exist'".[186] The strategy to divide the programme elements into a schema of points, lines and planes, not only effectively accommodated the programmatic demands of the brief within the site boundaries, but also led to a mosaic of 'urban' and 'landscape' features. The resulting patchwork of red and green, abiotic and biotic, city and landscape, has been a persistent criticism in the discourse since the competition, enlarged by Tschumi's background as architect and the patent architectural detailing of the proposal [Figure 6.18]. Baljon (1992) censures the scheme for ignoring some basic qualities he described as "long sight lines to dream away in, and the tranquillity of simple spaces in which to entertains one's thoughts".[187] Corner (1999) however, credits Tschumi's merging of the density, congestion and

183 EPPV, 1982, p. 8 & 9.

184 Baljon, 1992, p. 178.

185 Steenbergen & Reh, 2011, p. 418.

186 Tschumi, 1987, p. 1.

187 Baljon, 1992, p. 236.

richness of the city into the park as "one of the most significant steps in forging a new architecture of the landscape".[188] Finally, a well-founded criticism of the supposed avant-garde status of the park comes from Elisabeth Meyer, who in comparing Parc de la Villette with the nineteenth-century scheme for Parc des Buttes Chaumont nearby, challenges the presumed absence of a relationship between city and park in pre–La Villette projects. In an insightful paper, Meyer (1991) demonstrates how the Buttes Chaumont scheme both functionally and visually fuses city and park together, using comparable 'layers' of promenade, panorama and point grid.[189] Although concluding that Tschumi was thus largely ignorant of the historical repertoire of landscape architecture, she does suggests that the La Villette scheme offers innovations to landscape architecture in critiquing landscape design "wallowing in kitsch and in the image of the picturesque", and in working with overlays.[190] Finally, the La Villette scheme is also put forward as representing a compositional model of the contemporary metropolis.[191]

### 6.3.3 Program(ming)

Leading out from the conceptual convergence of park and city in the scheme is an intensification of focus on programme in the (park) design process. This factor was reflected in the brief, the Tschumi submission and in its reception. The number and range of programme proposed could be traced back to Giscard d'Estang's vision for a series of cultural projects in and around the capital, a plan that highlighted the strategic location of the site within the city boundaries as an ideal location for a cultural project. In turn, the competition brief emphasized the ambition to create a new urban centre for the eastern suburbs, which was to become not only a place of relaxation, but also of discovery, science and culture. In all probability, the possibilities envisaged by city authorities and park commissioners for the park were also informed by the characteristics of the location, a site without noteworthy landscape features, which had been levelled by centuries of industrial use, and which had been removed from the public realm for so long. Here was a site onto which the dreams and aspirations of city fathers could be writ large, a 'radical emptiness' onto which Paris might fundamentally remodel its character in a self-conscious mixture of hubris and cultural ambition.[192] The designation of the site for cultural facilities attracted other cultural programme to the site, aided by the perceived potential of these programmes for the socio-economic development of northeast Paris. Terms such as 'pluralism' and 'innovation' illustrated how the park was to make Paris once more a leading centre for cultural and technological innovation. Pluralism in particular, was elaborated with three unifying notions: man and the city; pleasure/body and mind; experimentation/knowledge and action. Furthermore, the park was to be more than a recreation facility; it was to be a place of discovery, relaxation, science and culture, themes pitched towards establishing a new precedent in park design and demanding of specific functions and activities. Eventually, the competition brief formulated in excess of forty separate programmes for the park. These were grouped into four categories placed in diagrammatic relation to each other: main activities (activités majeures), services and commercial activities (accueil-service & commerce),

188 Corner, 1999, p. 17.

189 Meyer, 1991.

190 Ibid, p. 26.

191 Steenbergen & Reh, 2011.

192 Sudjic, 1992.

administration (entretion-gestion technique), and logistics (stationnement public) [Figure 6.19]. Plans for the Cité des Sciences in the former Grande Salle complex, and the Cité de la Musique at the other end of the site however, impacted significantly on where programme could be located Placed side by side, the total area of this programme barely fitted into the remaining area. Moreover, certain programme elements were also required to be located in relation to one another, requiring an innovative approach in accommodating them. Addressing this situation necessitated thinking outside of the box; as Baljon (1992) notes, "an ingenious - almost cunning – interpretation was demanded of the designer."[193]

Tschumi endorsed the heavily programmed brief as a necessary pursuit of (park) architecture and urban design, embracing its diversity and density. The scheme made use of the complexity and contradictions of the brief, with each layer drawn from (and for) a different set of programmatic and spatial parameters. Tate (2001) concluded that "Parc de la Villette is not so much a new form of urban park as a culturally programmed, architectural theory-driven, state-financed setting for cultural facilities".[194]

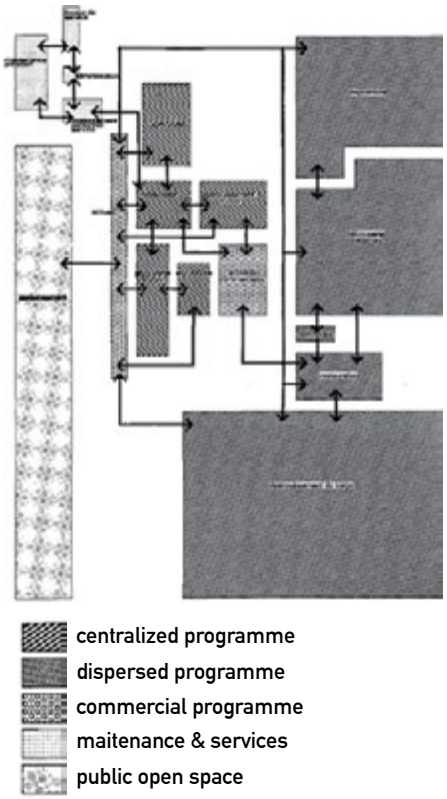



FIGURE 6.19 Diagram of the functional requirements and relationships of the park brief. (Image source: EPPV).

193 Baljon, 1992. p. 36.

194 Tate, 2015, p. 140.

### 6.3.4 Social Design

Inter-related to programming was the particular focus of the brief and scheme on the social aspects of park design. The density of programme was devised to bring all walks of urban life together in an ambitious social experiment. The brief noted that, "The Parc de la Villette will not be an island contributing a new element to this isolation. On the contrary, it will actively participate in the revival of the district. ...The park will accommodate facilities and activities linked to local life".[195] The size and diversity of the briefing programme reflected the vision of park commissioners of socio-spatial potentials of the scheme. Any response to the brief needed to address and integrate diverse programme so that interactions between different user groups, at different times of the day, week, month and year would occur.

Tschumi acknowledged this mandate in the competition submission, whereby the programme schema became a tool to not only accommodate and orchestrate all the demands of the brief, but also to examine what new configurations of the social were possible in an urban park. With the *folies*, Tschumi introduces the notion of 'transference' to explain how they represent a point where the dissociated space of the contemporary city reconstitutes itself as a system of relations between spaces, movements and events. His earlier work had already focused on the relationship between socio-cultural practise and architecture, so that embracing the programmatic possibilities of the park illustrated his interest in a more dynamic definition of architecture as event.[196] Inspired by evolving permutations of urban environments and their inhabitants, the juxtaposition of the layers of the scheme attempt to catalyse new forms of behaviour and interaction between people and practises otherwise separated from each other in space and time. Avermaete and Havik (2008) argue that Tschumi's scheme for La Villette is not so much a strategy for constructing place, but rather a concept "to explore new territories for the social in architecture, and new social knowledge".[197] In his analysis of the competition entries, Baljon (1992) noted the strategy - and humour - of such a system: "Tschumi's system of programmatic deconstruction and re-composition encourages the combination of apparently incompatible activities."[198]

### 6.3.5 Site, Context & Place(making)

In turn, the 'social design' aspects of the scheme intersect with the discourse on themes of site, context and place-making. After his own site inspection at the time of the competition, Baljon (1992) remarked that "...the *genius loci* appears to be chiefly determined by an accumulation of problems: not being able to estimate dimensions; the perception of emptiness; the abundance of possibilities, almost everything has yet to be made, so everything is possible".[199] Tschumi's own response was to

195 EPPV, 1982, p. 7.

196 Avermaete & Havik, 2008.

197 Ibid, p. 56.

198 Baljon, 1992, p. 176.

199 Ibid, p. 37.

comment that the scheme was in part motivated by the fact that the site was "not virgin land", noting the challenge of dealing with existing structures in the design. In this vein he went on to claim the scheme denied context; his proposal was "a diagram looking for a site".[200] Subsequently, various commentators indeed labelled the scheme a *tabula rasa* approach to park design, and indicative of Tschumi's disregard of landscape design as contextual praxis.[201] Tate (2001) reflected that Parc de la Villette was the only exception to the common denominator of the twenty parks he included in his publication *Great City Parks*: the comprehension, interpretation and expression of the intrinsic natural and cultural landscape characteristics of a site through design.[202]

Whether the scheme does in fact disregard the intrinsic landscape of the site, or engages it in a different way, is a central question for the research. A site that has undergone a series of (urban) transformations which have literally erasing its 'ground' presents a critical challenge for place-making - as morphological exercise. Moreover, the amalgam of past uses and fragmentation by infrastructure disqualifies the notion of a homogenous 'territory' with which to work. Given this condition, Tschumi's abandonment of context was somewhat justified by Treib (1995) who reflects that "long driven underground by the onslaught of urbanity, sub-urbanity and modern technology, ... the genius – or what was left of him or her - could be consulted in many places in only a desultory way since 'the place' had been so disturbed by centuries of industrial and residential development."[203]

The literature does however, elaborate how place-making in the scheme emerges from strategies other than working with the physical site. Tschumi claimed that the layering of programme was about exploring an alternative strategy that elaborated the conditions for linking design to social practise, and bringing about social and behavioural 'tensions'. This approach contrasted to conventional design praxis of 'constructing' place, which are largely unmindful of social activities which have (and might) take place, but which elaborate place-making as a result of social encounters. As such, Avermaete & Havik (2008) conclude that the scheme, in contrast to what most critics claim is a denial of place and context, is in fact all about place – in the sense of creating conditions to generate and change place by (dynamic) social interaction [Figure 6.20]. Similarly, Casey (1997) viewed the superposition of programme layers as a concept exploring "a new sense of place, that has more to do with motion than with stability, dislocation than location, point than containing surface."[204]

200 Tschumi, 1987, p. 4.

201 Meyer, 1991; Tate, 2001.

202 Tate, 2001.

203 Treib, 1995, p. 90.

204 Casey, 1997, p. 317.



FIGURE 6.20 Café *folie* ca. 1998 (Photo: Sophie Chivet).

### 6.3.6 Meaning

A further thematic in the discourse revolved around the subject of meaning in the scheme. Lamenting the Modernist rejection of styling, ornament and representation and the decline of expressiveness in parks in course of the twentieth century, the competition brief envisioned a park to recover the evocative and semantic wealth of nineteenth-century parks. It went on to propose pluralism as the major cultural and symbolic 'frame of reference' for the competition, emphasizing the city as inspiration. Reflecting on the brief and the Tschumi scheme, Boersma et. al. (1991) contends that the return of focus on the urban realm as source-code for the aesthetic identity of parks stemmed largely from the dramatic shift in the appearance of the urban and rural realms in the western world in the Modernist period. In the course of the twentieth century, the rural landscape had become less and less the result of activities of independent actors and vernacular practises, and more and more subject to integral ecological, technical, social and aesthetic measures.[205] The distinction between urban and rural areas has thus become increasingly blurred, rendering the creative opposition of city-countryside redundant (a duality that lies at the core of the representation of a romantic ideal of nature in the nineteenth-century municipal park). Contemporary parks thus no longer needed to represent a nature and countryside that had disappeared, leaving designers free to turn to the complexity of the urban realm itself for inspiration.[206] Moreover, the legacy of industrial and urban features in brownfield sites coincided with these developments, with sites such as La Villette already occupied by an assortment of 'urban' features. Instead of reacting to this critique with a (post-modernist) language of symbols and coding however, Tschumi took issue with the idea of meaning itself being immanent in architectural structures and forms, contending that significance is not absolute but transient and socially produced: "The La Villette project in

205 Boersma et. al., 1991.

206 ibid.



FIGURE 6.21 La Case Vide. (Image source: Tschumi, 1987).

contrast, attempts to dislocate and deregulate meaning, rejecting the 'symbolic' repertory of architecture as a refuge of humanist thought. ... The project aims to unsettle both memory and context, opposing many contextualist and continualist ideals which imply that the architect's intervention necessarily refers to a typology, origin of determining signified".[207] This vision was principally elaborated in the *folies* concept. Each pavilion was to be made up of an arbitrary combination of archetypal industrial, urban and nature forms, intended to evoke the contemporary heterogeneity of the urban realm [Figure 6.21]. The resulting miscellany of imagery resonated with Tschumi's assertion of the dissociation between use, form and social values in the urban realm, and his contention that the park is a formalization of this process. The *folies* were intended to "mean nothing, an architecture of the signifier rather than the signified – one that is pure trace or play of language".[208] Denouncing the historical continuity of architectural typologies and styles, Tschumi thus posited the *folies* in a 'de-constructivist vacuum', claiming it impossible to generate meaning because of the many different meanings in existence.

In acclaiming La Villette as having finally delivered a park reflective of twentieth-century culture, Boersma et. al. (1991) lend the *folies* a large part of this credit. Similarly, in exploring different approaches to significance in landscape architecture, Treib (1995) refers to the *folies* as a search for generating meaning in a park through elements expressing the *Zeitgeist*, or the 'spirit of the times'. In his analysis, the *Zeitgeist* attempts to link park imagery to contemporary culture, predicated on the premise of landscape design as a cultural as well as environmental practise. And Baljon (1992) in reflecting that the scheme leads one to assume that this is more about a new form of urban public space than an urban park, concludes however, that "La Villette is nevertheless a park. In most plans it is dominated by park architecture, and the character of what is exhibited and of the other facilities is in keeping with the nature of a park."[209]

207 Tschumi, 1987, p.VII

208 ibid, p.VIII.

209 Baljon, 1992, p. 234.

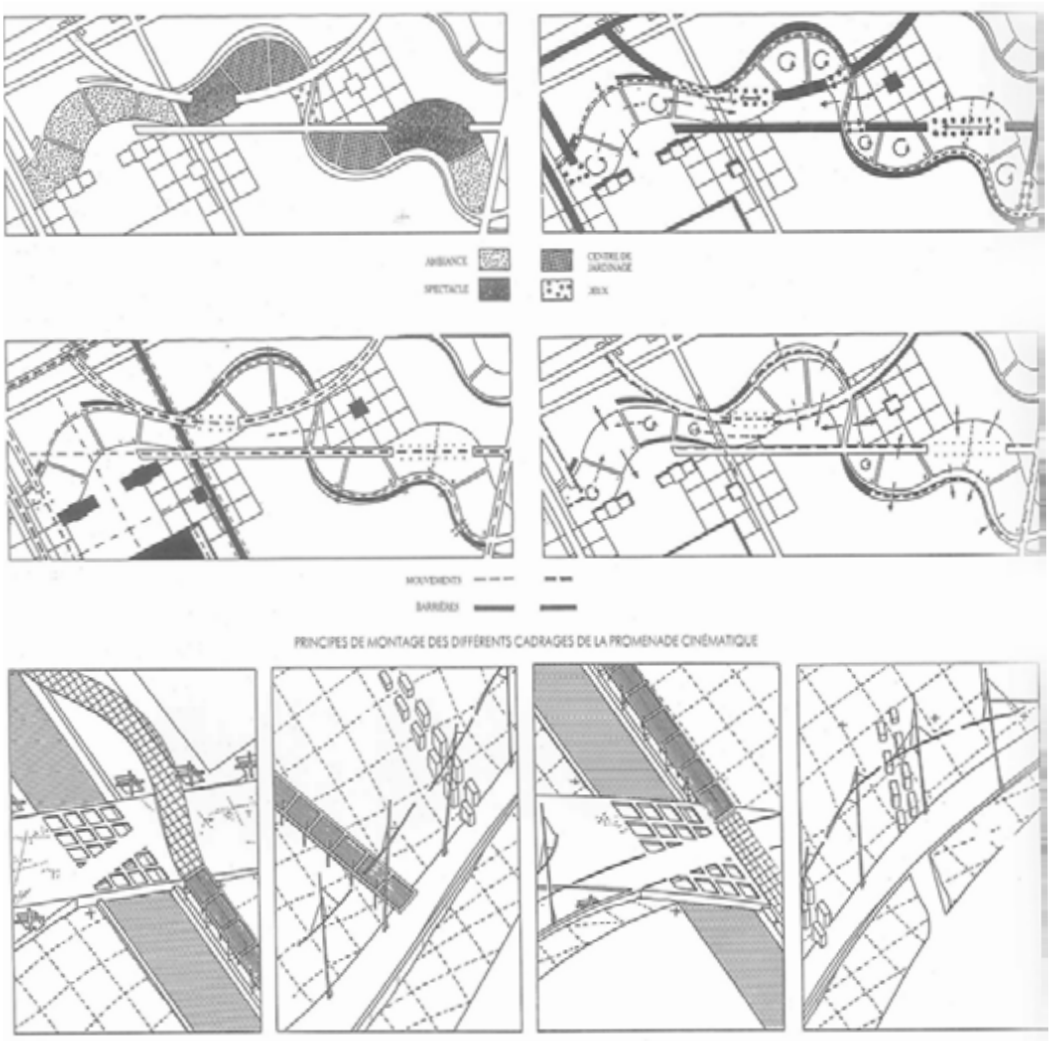



FIGURE 6.22 Representation of the intersection of the Cinematic promenade with the alleys of trees and the canal (Image source: Tschumi, 1987).

### 6.3.7 Experience

A final thematic in the approach and reception of the scheme was the issue of experience (of park space). Resonating with the *folie* strategy was the juxtaposition of the other layers in the scheme, in particular the Promenade de Jardins, which was intended to generate a multiplicity of impressions as one moved along it. Tschumi claimed that images along the Promenade bore no particular relationship to each other, but were merely 'frames' of unrelated images to be assembled by the visitor into individual '*cinegrams*,' as in a film. At regular intervals the Promenade was also deliberately interrupted by the galeries and allées, so that image sequences were 'cut', just as film and literature uses flashbacks, jump-cuts and dissolves [Figure 6.22]. There is thus no intention that the film be experienced from beginning to end, in fact there is no film scenario at all. In this vision, the image form of the Promenade is *a priori* indeterminate. "Each part, each frame of sequences qualifies, reinforces or alters the parts that precede and follow it.



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The associations thus formed allows for a plurality of interpretations rather than a singular fact".[210] In reflecting on the Promenade de Jardins, Tate (2001) recalled Treib's observation that this feature differed from conventional notions of designing with motion such as Gordon Cullen's 'serial vision', in that it dealt with impressions of reality rather than with reality itself. Meyer (1991) observes that, in regard to the Promenade de Jardins concept, the La Villette scheme does not essentially differ from nineteenth-century Parc de Buttes Chaumont, which also draws on cinematic and panoramic references. On the topic of design and motion, Hardingham and Rattenbury (2012) point out the congruity between Tschumi's ideas and Lawrence Halprin's RSVP cycles [1969] on design for movement.[211]

## 6.4 Descriptive Site Observations

A descriptive observation tour was made in early November 2012, between 10am in the morning and 12 noon. It begins with an approach to the park from the Avenue Jean Jaures. There is no park gate to pass through, just a break of some one hundred metres in the building frontage [Figure 6.23]. A wedding party gathers in front of the space and begins to make its way across the square. Following them, we enter a large triangular open space paved in granite cobbles - the Place de la Fontaine aux Lions. An assortment of buildings set back some hundred metres from the avenue front the square, dominated by the nineteenth-century Grande Halle. A set of neo-classical pavilions flank the Grande Halle, while two other building complexes front both the square and the Avenue Jean Jaures: the Conservatoire de Paris and the Cité de la Musique. Added to these structures are the red *folies*, positioned at regular intervals across the space. Three appear to 'collide' with the facades of the classical pavilions and the Cité de la Musique, while a fourth and fifth standing freely in the square.



a *Location 1*



b *Place de la Fontaine aux Lions from Avenue Jean Jaures. (Photo: Author)*

FIGURE 6.23

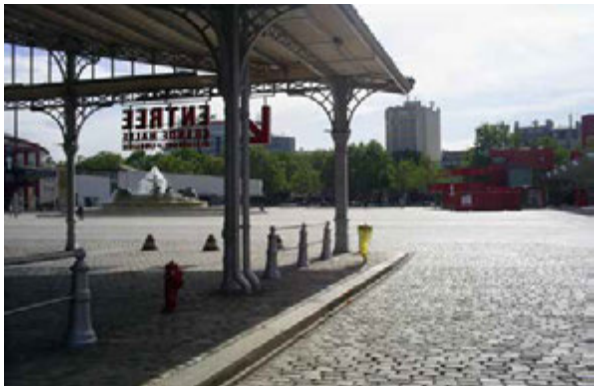
210 Tschumi, 1987, p. 12.

211 Hardingham & Rattenbury, 2012.

We cross the square, which is otherwise open, save the fountain from which the square owes its name, centrally situated [Figure 6.24]. Water clatters ostentatiously from the mouths of eight bronze lions into a circular basin, muffling the traffic noise from the Boulevard Périphérique close by. Groups of visitors stroll across the space and a few children play noisily around the fountain. Tables outside the Café de la Musique are filling quickly. The wedding party makes it way towards a broad, paved street-like space west of the Grande Halle. We follow them and find ourselves in a wide street-like space edged by the Grande Halle to the right and an enormous sine-wave roof canopy to the left - the Galerie de la Villette [Figure 6.25]. Its roof, supported by double-legged steel columns, seems to stride towards us, resembling an enormous industrial conveyor, or (the remains of) a building arcade.

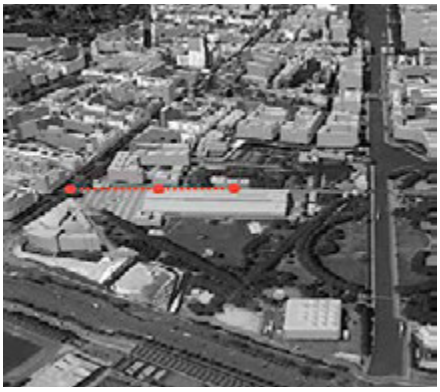


a *Location 2*



b *Place de la Fontaine aux Lions from Les Grande Halle. (Photo: Author)*

FIGURE 6.24



a *Location 3*



b *Galerie de la Villette looking north (Photo: Author)*

FIGURE 6.25

Further on a meandering path of concrete tiles with a tactile button-stone finish signposted 'Promenade de Jardins ', leads off to the left into a grove of trees. We continue, passing a series of *folies* before arriving at another large paved space fronted by an assortment of small sideshow stalls and attractions [Figure 6.26]. Two very different kinds of pedestrians use this space: those hurrying along under the shade of the galerie, clearly traversing the park on their way to somewhere else, and park visitors proper, who stroll more casually in the open sunlight.



a *Location 4*



b *Galerie de la Villette looking north (Photo: Author)*

FIGURE 6.26

Beyond the sideshow stalls the button-stone paved Promenade de Jardins reappears and crosses the space, as does an asphalt strip - the Allée du Belvédère - leading diagonally back into the park [Figure 6.27]. The double row of plane trees lining the allée frame the space in dark tunnel of green, which terminates in a far-off lighted void. In front of us, different movement lines overlay each other in such as way that an informal intersection emerges. Cycle and pedestrian movements criss-cross the space from different directions, weaving through each other in an intriguing game of attraction and diversion.



a *Location 5*



b *Junction Galerie de la Villette & Allée du Belvédère. (Photo: Author)*

FIGURE 6.27



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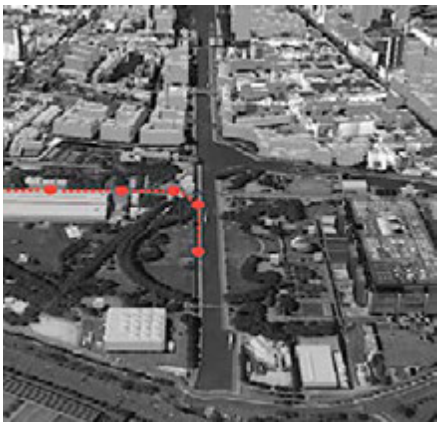
Continuing along the Galerie de la Villette, we pass under a raised walkway - the Galerie de l'Ourcq - designed in the same style as the Galerie de la Villette but following a perpendicular alignment to the Canal de l'Ourcq [Figure 6.28]. The water in the canal is mirror-flat on this calm morning, and the level is high: only a few centimetres below the quays. It could easily pass for a rowing course or an elongated swimming pool. Its recti-linearity is also reflected in the site's topography; the park surface until now has been a more or less level plane, free of major topographical variations. Bridges cross the canal at regular intervals, some new, some old; some light and transparent, others heavy and enclosed. Walking along the quayside, an enormous building complex forms an artificial horizon line on the other side of the canal: the Cité des Sciences et de l'Industrie. In front of it stands a giant, mirror-tiled orb - the Geode 3D cinema, flanked by a half circle of plane trees. [Figure 6.29]. This group of objects form a playful and intriguing spectacle of geometric figures. Beside the Geode, a submarine appears to be freshly beached in the grass.



*a Location 6*
FIGURE 6.28



*b View east along the Galerie de de l'Ourcq and the Canal de l'Ourcq. (Photo: Author)*



*a Location 7*
FIGURE 6.29



*b View across the Canal de l'Ourcq to Cité des Sciences et de l'Industrie. (Photo: Author)*

Moving along the quay we pass the folie du Canal and the folie ateliers du Parc, then enter a large semi-circular lawn ringed by more plane trees, the Prairie du Cercle [Figure 6.30]. With some concentration and imagination, we can make out that this semi-circular line of trees is a continuation of the row on the other side of the canal, setting up an enormous circular figure in the park. This is the first area resembling a conventional park space we have encountered, with grassy areas to picnic and play on, but there are only a handful of people using the space this morning, despite the mild sunny weather.



*a Location 8*



*b View across Prairie du Cercle towards the Canal de l'Ourcq (Photo: Author)*

FIGURE 6.30

Walking further east along the quay we arrive at the edge of the park bordering the Boulevard Périphérique, whose embankments curve away north and south in sweeping arcs. A fence prohibits access to the park along the base of the embankments and storage facilities can be seen behind what appears to be a 'back-of-house' area of the park. We double back along the quay path and climb the stairs inside the folie Échangeur to arrive on a bridge over the Canal de l'Ourcq. Looking east we can see the back-of-house zone stretching right along the interface of park and boulevard. Westwards, office towers and apartment blocks of the nineteenth arrondissement are clearly visible [Figure 6.31]. Our view is drawn by the line of canal and its quays stretching westward for more than two kilometres back to the Bassin de la Villette and the Ledoux Rotunda. Where the park begins and ends is unclear: does it start back at the Rotunda, or halfway along the canal? From this perspective, the scale and axiality of the canal dominates the park, which could now be seen as not one, but two parks either side of the canal. At the same time the canal ensemble can also be read as a part of the park leading back into the city.



*a Location 9*



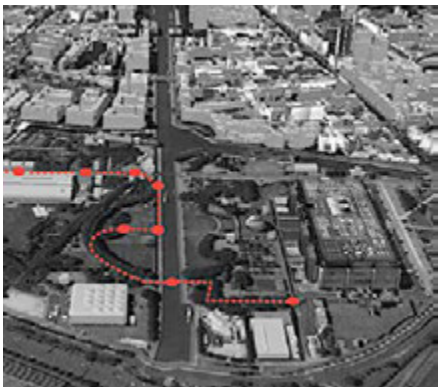
*b Garden Walk. (Photo: Author)*

FIGURE 6.31



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Continuing over the bridge we find ourselves on the Promenade de Jardins . We pass through the Jardin des Îles (Island Garden), where a web of granite paths between low wooded mounds. In the centre of the garden, a sheet of water glides over a slab of granite and reflects the sky. Descending further down towards a sunken basin in which the Cité des Sciences stands, the façade of the science centre looms above us [Figure 6.32]. The threshold zone of levels and infrastructure between the Cité and park occupies such a large area that the grade areas of the park are mere strips around the building.



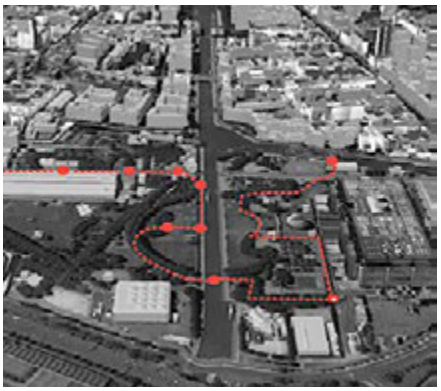
a *Location 10*



b *View across the Canal de l'Ourcq to Cité des Sciences et de l'Industrie. (Photo: Author)*

FIGURE 6.32

Climbing out of the sunken basin we follow the Promenade de Jardins around to arrive on the linear strip west of the complex. This paved surface running north-south is an extension of the Galerie de la Villette with the same sine-wave roof forming its western boundary. Two circus tents stand on a large paved space to our left, but there are no shows on today. The meandering button-stone pathway snakes through the pavement and then veers off left. We follow it and find ourselves on the quay of another canal, the Canal St. Denis, which forms the border of the park to the west. The path connects to a walkway across an old lock in the canal to the other side, where an untidy assortment of apartment buildings, warehouses and terraces line the quay [Figure 6.33].

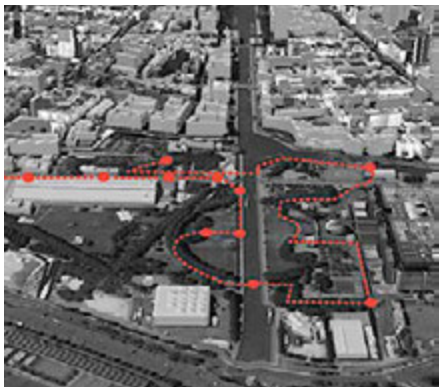


a *Location 11*



b *View across Prairie du Cercle towards the Canal de l'Ourcq (Photo: Author)*

FIGURE 6.33

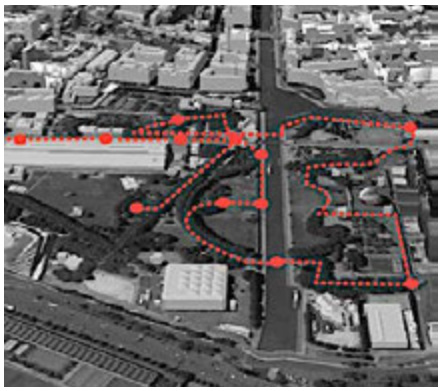


a *Location 12*



b *Garden Walk. (Photo: Author)*

FIGURE 6.34



a *Location 13*



b *Jardin des Bambous. (Photo: Author)*

FIGURE 6.35

Returning back along the Galerie de la Villette to the park area the other side of the Canal de l'Ourcq, we pick up the Promenade de Jardins where it begins near the Place de la Fontaine aux Lions. The path weaves between allées and lawns, sometimes forming the edge of the gardens, sometimes passing through them, its meandering curves evoking the romantic lines of nineteenth century landscape parks [Figure 6.34]. The is a somewhat confusing route to follow though, crossing as it does the Galeries and Allées repeatedly. Moving along we pass different gardens in rapid succession: the Jardin des Miroirs (Garden of Mirrors) where concrete columns stand among pines and maples; the Jardins Passagers (Seasonal Gardens) with spiral beds of indigenous and edible plants; the Jardin des Vents et des Dunes (Garden of Winds and Dunes), a decor of artificial dunes, windmills, sails, hulls and artificial waves; the L'Artere – Jardin des Dessins (Garden of Drawings) made up of a mosaic surface of hand-made tiles; and the Jardin de la Treille (Trellis Garden) with ninety fountains bubbling away among vines and creepers. The sixth garden along the route is the Jardin des Bambous (Bamboo Garden) is as big as a football field and sunk five metres below the surface of the park. A ramp and steps lead down to the lower level, planted out with bamboo, now reaching heights well above the upper park level. Water trickles down rebates in the walls and concealed speakers play frog sounds [Figure 6.35]. Submerged below the surface of the park, we are immersed in a sensorial world.

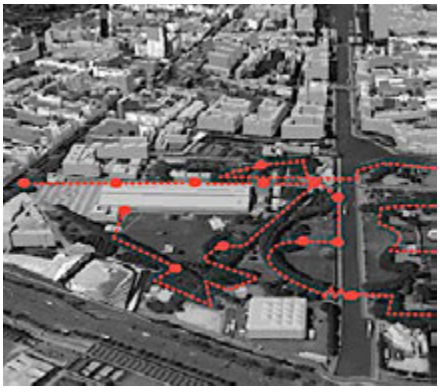


a *Location 14*



b *Allée du Zénith. (Photo: Author)*

FIGURE 6.36



a *Location 15*



b *Prairie du Triangle. (Photo: Author)*

FIGURE 6.37

Emerging from the bamboo garden the path leads on to the Jardin des Équilibres (Equilibrium Garden) filled with coloured elements and large metal kites; the Jardin des Ombres (Garden of Shadows) where sunlight and shadow play on a black and white pavement; the Jardin des Frayeurs Enfantines (Garden of Childhood Fears), a mysterious grove of spruce and birch accompanied by unusual sounds; and on to the Jardin des Voltiges (Acrobatic Garden), a sports and games area with equipment for movement and balance. From here we pick up the Allée du Zénith back towards the main entrance [Figure 6.36].

Before arriving back at the Place de la Fontaine aux Lions, we stop to regard the Prairie du Triangle, an immaculately-kept lawn framed by the two tree-lined *allées* and the Grande Halle. A couple starts on an early picnic in front of us, while a group behind them warm up for what looks to be a serious game of park football [Figure 6.37].

## 6.5 Review of the Scheme as (Compositional) Procedures

### 6.5.1 Basic Form

#### 6.5.1.1 Points Layer: The Folie Grid

Spaced on a 120 metre square grid orientated N25°W, the *folie* grid appears in the first instance to have a layout independent of site or context. On closer inspection however, the grid can be seen to be orientated and proportioned attentive to site features: the dimensions of the grid relate to existing site structures such as the dimensions of the Grande Halle (250 metres long, 85 metres wide and 20 metres high) and the Cité des Sciences (270 metres long, 110 metres wide and 40 metres high) [Figure 6.38]. At the same time the size of the point grid enables a maximum number of grid points to be realised in the park area, which can be said to offset the dominance of existing features with a new, overriding order. Introducing of a layer of grid points covering the entire park site was in practise however unfeasible; of the forty grid points fitting into the site, twenty-six have been able to be realised [Figure 6.39]. While the grid is relatively complete in the park area south, it is incomplete in the park area to the north of the canal: of a possible seventeen grid points here, only eight have been able to be realised due to the size of the Cité des Sciences complex. The grid points north of the canal 'wash' around the complex in rows: three points stands in front, three points to the side and two to the north. A similar situation occurs towards the edges of the site: realisation of grid points are obstructed by existing buildings or infrastructures, resulting in an incomplete threshold zone where grid points have only been able to be intermittently realised. The grid spacing has however, allowed an uninterrupted point grid to be realised in a central area of the park – a square field measuring 360 by 360 metres, formed by sixteen grid points.

A further relationship between grid and site lies in its alignment. A point grid is without hierarchy, and therefore has no dominant directionality. A choice has been made however, to align the grid to the geometry of the Canal de l'Ourcq, which in turn is oriented to the geometric ensemble of the Bassin de la Villette, which extends back to the Ledoux Rotunda. As shown in the historical development analysis, this canal ensemble corresponds to the contours of the natural topography and waterways of eastern Paris: the alignment of the Canal de l'Ourcq follows the line of the depression between hills of Montmartre and Buttes Chaumont through which surface water would have ran. The Canal de l'Ourcq and the *Bassin de la Villette* can thus be seen as an architectonic transformation of the natural watercourse running through the site. Hence, while the underlying topography of the site would ostensibly seem to have no direct impact on the basic form of the park, it has influenced the geometry of the canal network and subsequently that of the park via the orientation of the *folie* grid to the canal. The choice to ignore all other geometries of the urban context except those of the canal, leads to an asymmetry in the integration of site and context: it privileges the direction and alignment of the *Bassin de la Villette* above other geometries in the surrounding urban tissue.

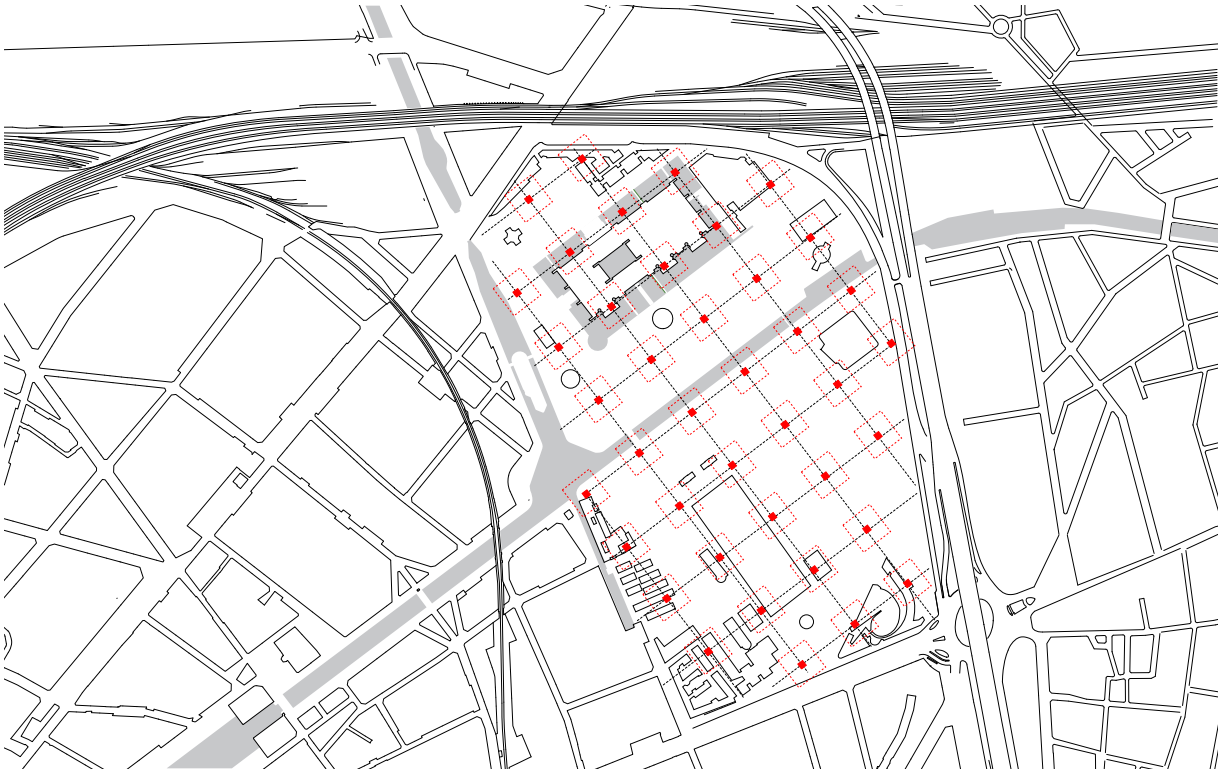


FIGURE 6.38 Plan projection *folie* grid: proportioning, dimensions and zoning. (Drawing: Tim Peeters & Author).

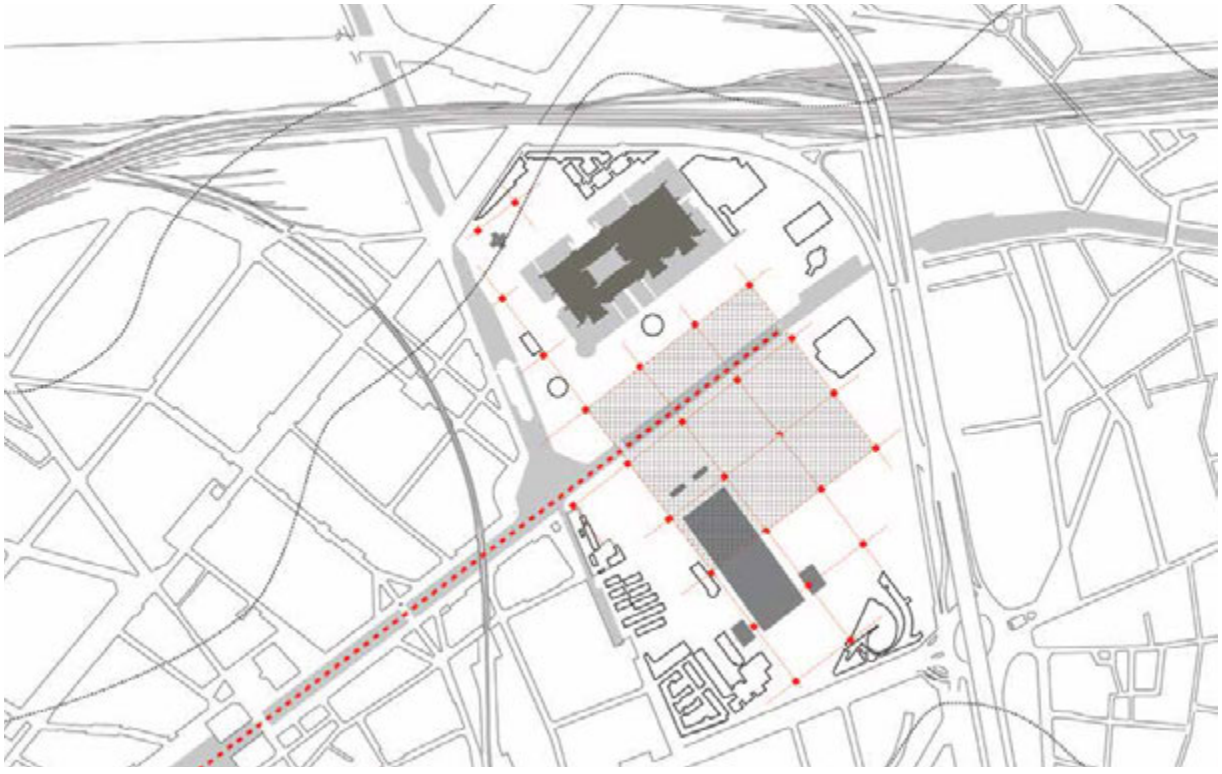


FIGURE 6.39 Plan projection folie grid: limits, orientation and relation to urban context. (Drawing: Tim Peeters & Author).

### 6.5.1.2 Lines Layer: Galeries, Alléés And Promenade de Jardins

The second layer of the scheme is formed by the series of linear figures: Galerie de la Villette [A in Figure 6.40], Galerie de l'Ourcq [B in Figure 6.40]; Allée du Belvédère [C in Figure 6.40]; Allée du Zénith [D in Figure 6.40], Allée du Cercle [E in Figure 6.40], and the Promenade de Jardins [F in Figure 6.40].

***Galeries.*** The galeries form linear geometries in the park, setting up a dominant order and directionality in the composition.[212] The north-south Galerie de la Villette is the primary linear geometry, and in leading from the park entrances on the Avenue Corentin Cariou to the Avenue Jean Jaurès, it plays a central role in the internal layout as well as the relationship between park and urban context. As such, this line duplicates the Rue de Crimée, a tangential connection 500 metres west of the site. Between them, these two lines form large-scale thoroughfares connecting neighbourhoods across the barrier formed by the Canal de l'Ourcq and the Bassin de la Villette. In doing so, the Galerie de la Villette also lends a duality and ambiguity to the line: as both a critical component of the layout of the park and of the larger urban fabric, it blurs its identity and role within the figure ground distinction between park and city. This trait echoes the duality and ambiguity of the folie grid, which, in its alignment to the Canal de l'Ourcq and the Bassin de la Villette, privileges both urban morphology and the underlying landscape form of the site.

Situated on the south bank of the Canal de l'Ourcq, the Galerie de l'Ourcq forms a secondary linear geometry in the scheme. The line manifests itself as a promenade following the former towpath, and above it a raised walkway connecting four folies along the quay. It begins and ends at the two secondary entrances to the park: to the west at the bridge across the mouth of the Petit Darse, and to the east at the viaduct under the Boulevard Périphérique. Its amendment to the urban fabric is less significant than that of the galerie de la Villette, following as it does a line that already exists. In this way however, it demonstrates a similar ambiguity: its orientation follows that of the Canal de l'Ourcq, underlining the geometry of the canal basin, while at the same time contributing to the geometric figure of the park.

***Allées.*** The Allée du Belvédère, Allée du Zénith and Allée du Cercle form an independent set of geometries in the scheme. The Allée du Zénith leads from the entrance on the Avenue Jean Jaurès to the Zénith concert venue, its axis orientated towards the outermost point on the curve of the Boulevard Périphérique in the site boundary, thereby exploiting the site's perimeter shape [Figure 6.41]. Lying almost perpendicular, the Allée du Belvédère forms a secondary route from west to east through the park, linking the entrance at the Petit Darse with the park facilities along the Boulevard Périphérique, thereby demarcating the internal dimensions of the site. In contrast to the scale and interrelationship of the galeries to the urban context, the allées form a sub-set of lines that respond to the internal configuration of the site and function on an intermediate scale. A third line – the Allée du Cercle, made up of three tangents of a circle, is positioned centrally over the Canal de l'Ourcq. Although also an intermediate scalar device, its alignment to the canal reflects and reinforces the impact of a contextual geometry such as the canal and the Cité des Sciences.

***Promenade de Jardins.*** As a third linear element, the Promenade de Jardins forms a route connecting the twelve theme gardens, beginning near the Grande Halle and weaving between the *folies* and the *allées*, before crossing the canal via the bridge to terminate near the lock in the Canal St. Denis [Figure 6.42]. The walk figure thus connects the two halves of the park separated by the canal with a single

212 In terms of its orientation, the geometry of the Galerie de la Villette would appear to align with that of the point grid and the canal, but in fact it follows the alignment of the Grande Halle, which is approximately one degree off a perpendicular alignment to the canal. This anomaly is almost imperceptible and of little relevance to the basic form of the scheme.

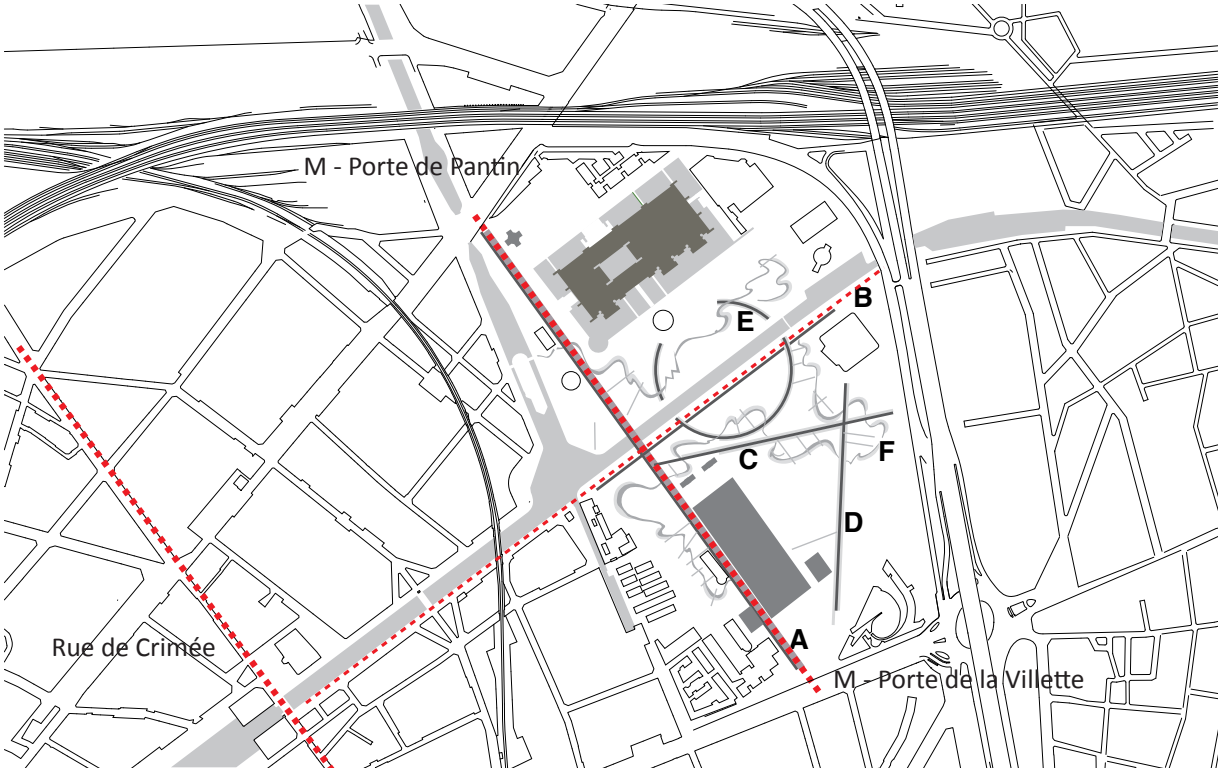



FIGURE 6.40 Plan configuration linear geometries site and context.(Drawing: Tim Peeters & Author).

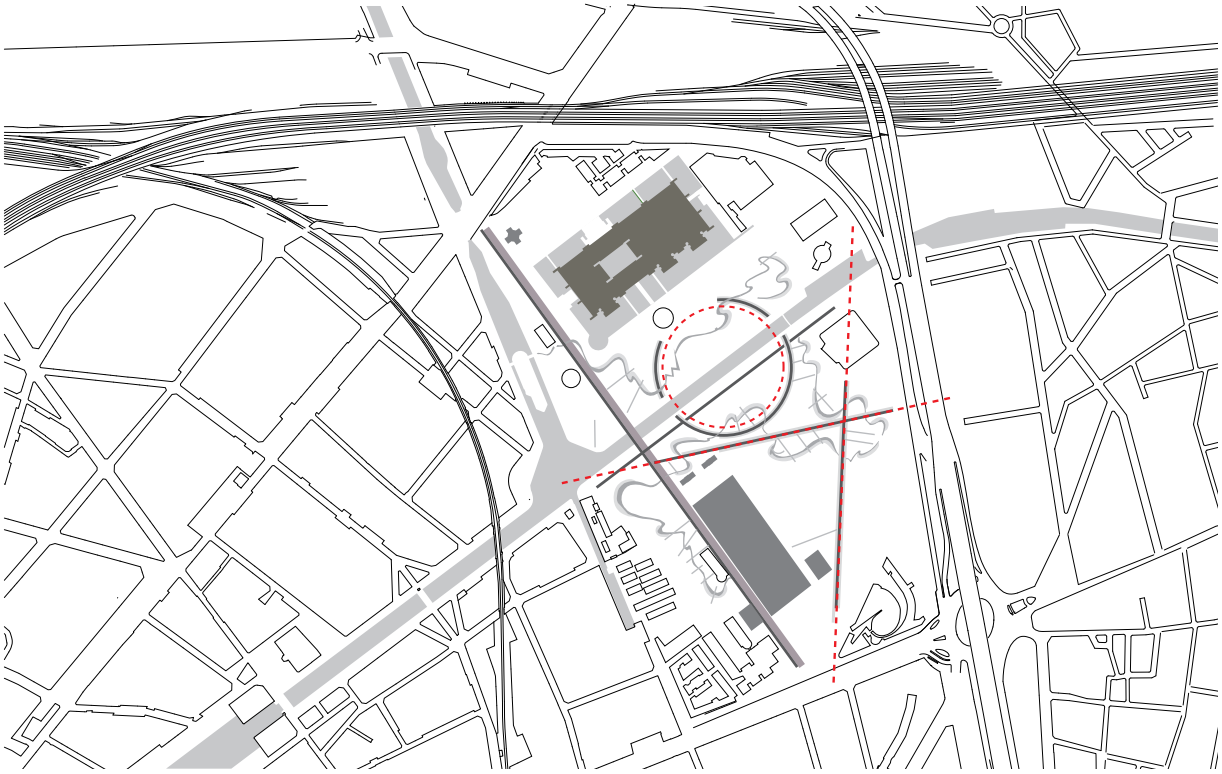


FIGURE 6.41 Plan configuration allées. (Drawing: Tim Peeters & Author).

geometric figure, similar to way the Galerie de la Villette crosses the canal and links the north and south park areas. In contrast to the a*llées* however, the form of this route is sinuous and meandering, made up of tight arcs and curves alternating with stretches of broader curves and near straight lines. In places the walk includes also hairpin bends, likening it to a winding hillside path, although the site has no vertical topographic articulation whatsoever. The arcs and curves of the Promenade de Jardins are grouped into five trajectories, each with its own distinctive alignment. These trajectories skirt around buildings and existing site features, resulting in a more than one kilometre long path through the park. Its distinctive figure offsets the dominance of the geometries of existing site structures, in the same way the folie grid and the galeries attempt to set up a matrix superior to the pattern of existing site configurations and structures. In the process, the Promenade de Jardins also explores the maximum shape of the site, presenting a third figure ground in the basic form of the park engaging primarily with the internal form of the site. The path, also repeatedly crosses other lines in the figure ground such as the allées and the galleries, interrupting its continuity.

#### 6.5.1.3 Surfaces Layer

The layer made up of the surface planes is devised as a set of organizational figures for the grouping and location of the park programmes. Three planes form graphic figures in the layout: a triangular plane (Prairie du Triangle) created by the remnant figure between the axis of the Allée du Belvédère, the Allée du Zénith, and the line of the Galerie de la Villette; a circular plane (Prairie du Cercle) spanning the canal; and a rectangular plane formed by the below-ground rectangular shape of the Cité des Sciences complex [Figure 6.43]. Three other secondary planes – that of the gardens, the Galerie de la Villette mall and the ring zone, edge and overlay these figures. Following the meandering form of the Promenade de Jardins, the garden plane overlaps these primary geometric forms, forming a connecting – and contrasting - intermediate plane between them. In the same way, the Galerie de la Villette plane follows the north-south linear orientation of the gallery, forming an edging plane figure for the three primary figures to their west. A final planes figure – the ring zone – owes its form to the shape of the Boulevard Périphérique. The end result is a series of three primary geometric figures spanning the canal, connected by the meandering of the gardens plane, and bounded by two subsidiary planes on either side.

### 6.5.2 Spatial Form

#### 6.5.2.1 The Folie Grid

Measuring 10.8 x 10.8 x 10.8 metres (similar in size to a large suburban villa), the space-frames of the twenty-six *folies* establish their primary structural form and spatiality. This space-frame is further divided into twenty-seven sub-frames measuring 3.6 x 3.6 x 3.6 metres, which are then broken down to form unique 3-dimensional composites for each pavilion [Figure 6.44]. Each space-frame is then 'filled in' with a unique assemblage of walls, floors, roofs, stairs, ramps and windows. Some pavilions, such as the Folie Escalier is little more than an open space-frame, while others such as the Folie Médiation are almost completely encased by wall, floor and ceiling panels [Figure 6.45]. Certain

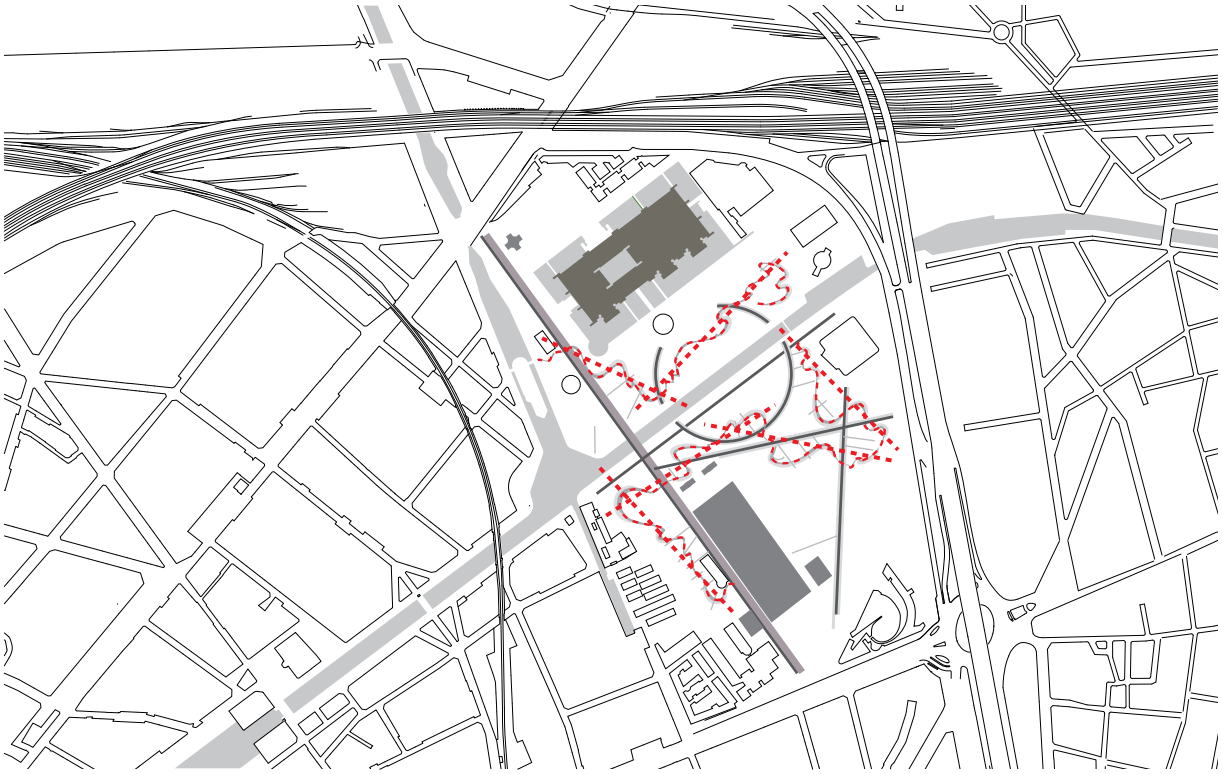


FIGURE 6.42 Plan configuration Promenade de Jardins. (Drawing: Tim Peeters & Author).

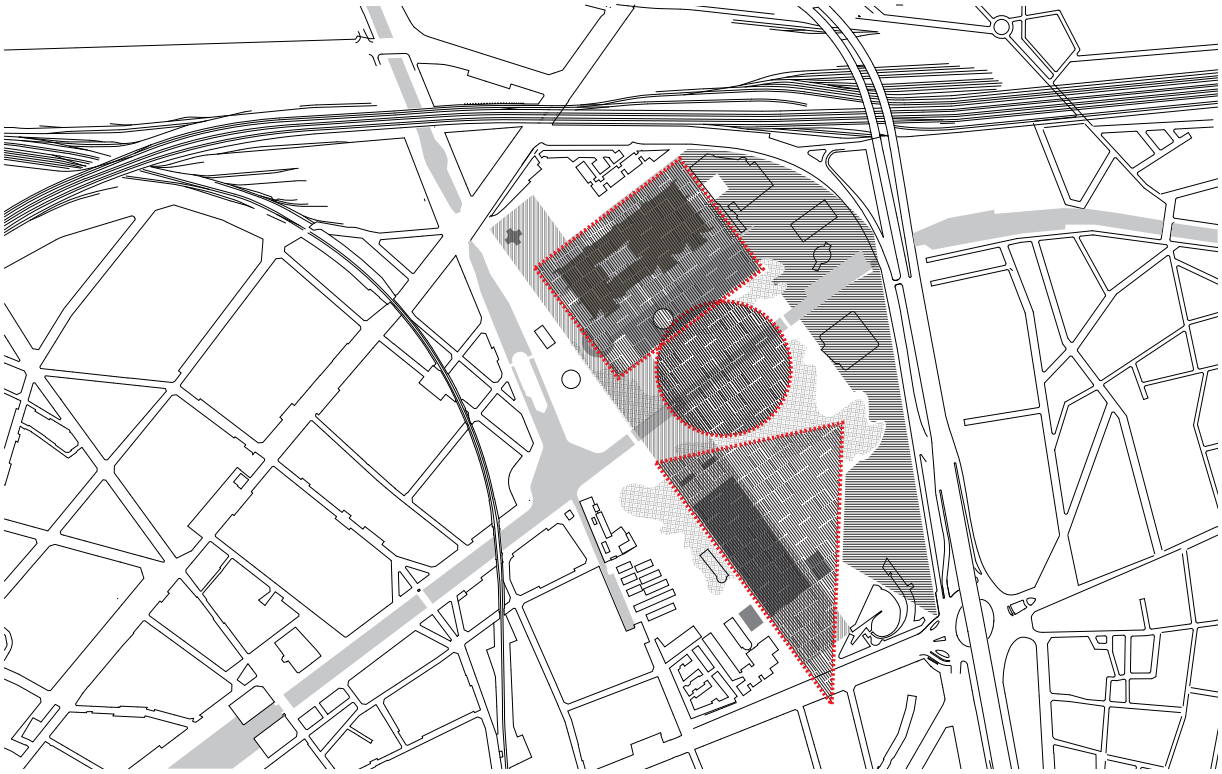


FIGURE 6.43 Planar geometries in the plan configuration. (Drawing: Tim Peeters & Author).

*folies* also have additions and alterations extending beyond the space-frame, such as the Folie Ateliers du Parc [Figure 6.46]. More than half of the pavilions stand freely, with those remaining attached to existing buildings, such as the Folie du Theatre [Figure 6.47]. Finally, some pavilions act as viewing points across the park such as the Folie Belvédère [Figure 6.48] and Folie des Visites [Figure 6.49].

As a sum of mass area compared to site area, the *folie* grid is in fact a relatively minor element in the park. On a site measuring 1000 x 700 metres, the relationship site dimensions to grid spacing is approximately 1:9, while the space-mass relationship between site area (55 hectares) and total *folies* floor area (0.31 hectares) is 1:175. By comparison the relationship site area to the Cité is 1:18 and the relationship site area to the Grande Halle is 1:25. As a volumetric mass, the *folies* are thus no match for the Cité des Sciences and the Grande Halle, but do compare to the space-mass relationships of other existing and new buildings to site area.

Furthermore, as a spatial element, the *folies* delineate a threshold zone around them, defined in the competition phase as a 60 x 60 metre paved square, which is often functionally taken up by entrance areas, terraces or storage. This effect is clearly bolstered by their spatial relation to one other. Positioned on a point-grid of 120-metre intervals, the height-distance relationship (grid dimensions to pavilion height) is 11:1, resulting in a strong spatial interrelationship between individual *folies*, and setting up a cohesive spatial field that exceeds the sum spatiality of the pavilions together [Figure 6.50]. This field however, is highly dependant on visual relationships between the pavilions - when reduced to a primary space-mass configuration; the strength of the spatial field is significantly reduced by existing structures and vegetation. The extents of the 'field' moreover, varies; as shown in the basic form analysis, the *folie* grid does not continue uninterrupted over the site, only in the centre of the park is there an unbroken grid of sixteen pavilions. The Canal de l'Ourcq, part of the Grande Halle, and various elements from other layers, also lie in this central zone, so that even here the grid is difficult to read from eye level as one spatial field. Around this central grid is a zone in which *folies* are positioned irregularly, either as freestanding pavilions or integrated into other structures, features or buildings, dissolving the *folie* grid into the surrounding urban fabric. The absence of hierarchy in the grid also prevents any form of spatial orientation aside from an 'interior' and 'exterior' condition, although each pavilion does differ in detail and some folies mark the entrances to buildings, points of access or level changes. Seen together with linear spatial elements such as the galeries, a subtle hierarchy and spatial order emerges. The line of folies running north-south along the Galerie de la Villette for instance, generate together with the Galerie a point and line screen which creates a spatial border to the park in the west.

### 6.5.2.2 Galeries, Allées And Promenade de Jardins

**Galerie de la Villette**. Galerie de la Villette denotes the structure that accompanies the major route through the park from north to south [Figure 6.51]. The route has an average width of twenty metres and is interrupted in the middle by a bridge over the Canal de l'Ourcq. Its spatial definition is defined by the length, size and detailing of a sine-wave roof suspended under a horizontal supporting beam at a height of 5.4 metres. The structure forms a covered walkway through the park, and in places serves as an 'awning' in front of the Conservatoire de Paris, the Theatre Paris-Villette, the Pavillon Paul Delouvrier, the Espace Chapiteaux and the Cineaxe centre. This combination of sine-wave roof and paved pedestrian zone generates an informal visual axis through the park, much like a city avenue. A first-time visitor passing through the space may thus construe it as a former street space, an interpretation enhanced by digital mapping software: the 'street-view' application in Google maps includes the entire length of the *galerie*. The spatial definition of this zone however, remains somewhat ambiguous, positioned as it is somewhere between a street, a passage and a mall [Figure 6.52].



FIGURE 6.44 Folie Escalier. (Photo: Author).



FIGURE 6.45 Folie Mediation. (Photo: Author).



FIGURE 6.46 Folie Atelier du Parc. (Photo: Author).



FIGURE 6.47 Folie Theatre. (Photo: Author).



FIGURE 6.48 Folie Belvédère. (Photo: Author).



FIGURE 6.49 Folie des Visites. (Photo: Author).

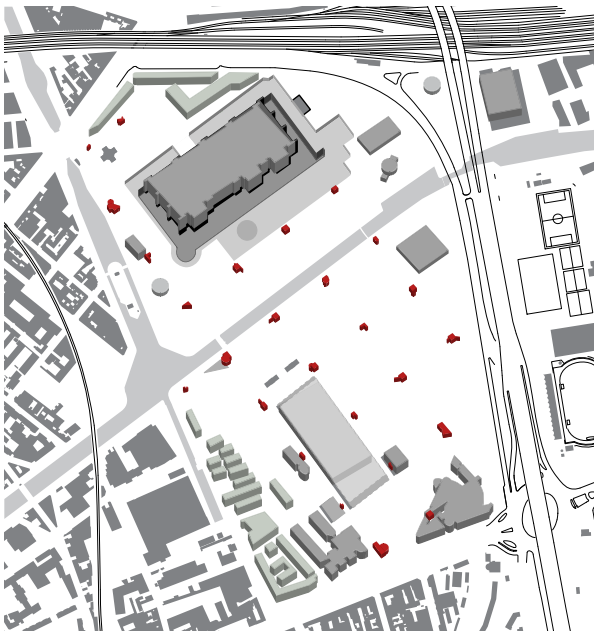


FIGURE 6.50 Axonometric projection: spatial configuration & visual relations *folie* grid. (Drawing: Tim Peeters & Author).

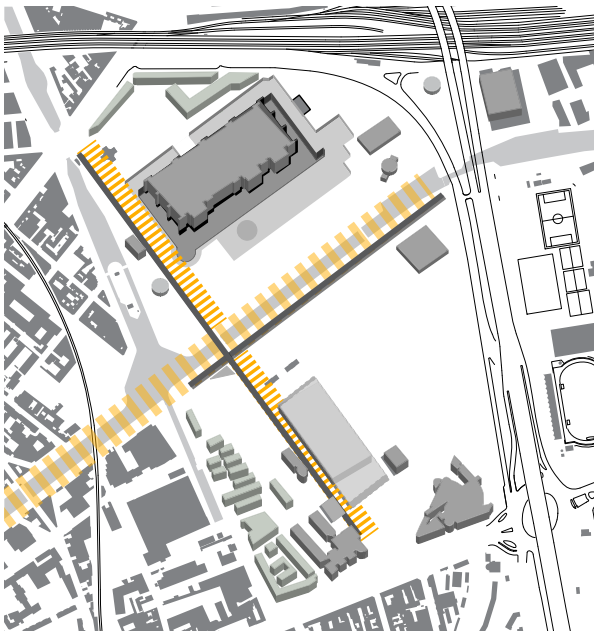


FIGURE 6.51 Axonometric projection: spatial configuration & visual relations *galeries*. (Drawing: Tim Peeters & Author).



FIGURE 6.52 Galerie de la Villette. (Photo: Alexandra Tisma).

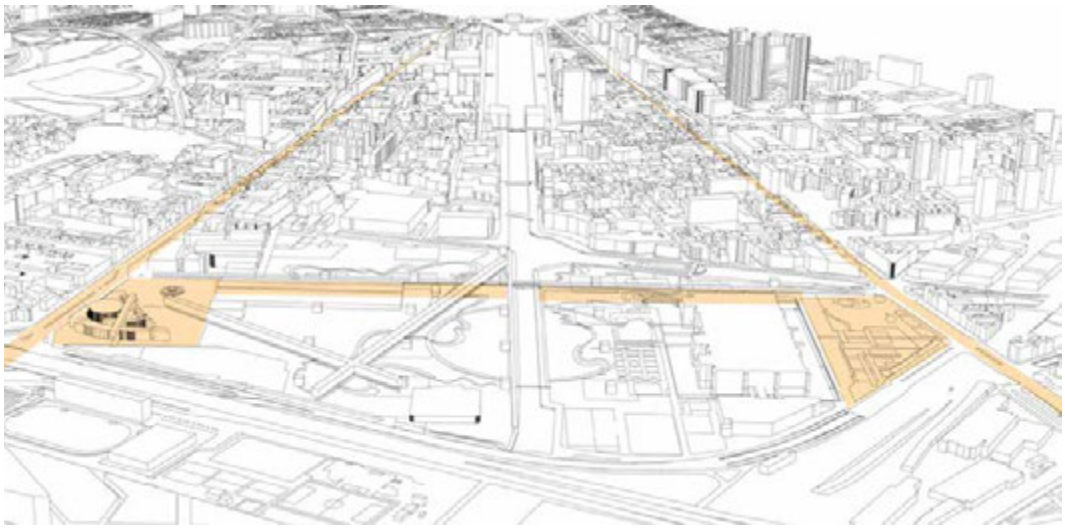


FIGURE 6.53 Birds-eye projection: external composition of radials, entrance squares and Galerie de la Villette. (Drawing: Tim Peeters & Author).

The canal moreover, interrupts the space for pedestrians to cross the bridge (although the supporting beam of the structure is kept rigorously horizontal, changing from a supporting beam above the sine-wave roof to a beam beneath the bridge). Given the flatness of the site, the bridge also introduces a new spatial dynamic through the change in level. In crossing the canal, visitors transfer from the 'interior' of the space to the 'exterior' of the raised balcony above the canal, dramatically expanding their visual field. From this point a panorama can be had to the west in the alignment of the canal for a distance of two kilometres, and an uninhibited view over the low-rise urban areas to the east. As a compositional device, the introduction of the *galerie* thus brings about a connection between the two halves of the park by setting up a contiguous (constructed) relationship between north and south, successfully 'breaching' the canal.

A secondary spatial relationship between park and city is introduced in the northern and southern limits of the park. An interface of entrance squares is created here, linked across the site by the Galerie de la Villette [Figure 6.53]. As it nears the park, the Avenue Jean Jaurés changes from a symmetrical avenue into an asymmetrical profile adjacent the park: the Place de la Fontaine aux Lions. This space, in excess of one hectare in size, is part sidewalk, part square and part park: two sides of the space are dominated by built form, one side is open to the park and one side is open to the street. Buildings within the park which face the Avenue Jean Jaures (the Conservatoire de Paris and Cité de la Musique) have orientations

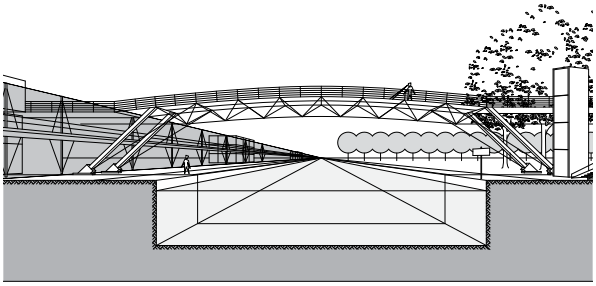


FIGURE 6.54 Sectional elevation: Galerie de l'Ourcq and pedestrian bridge. (Drawing: Tim Peeters & Author).

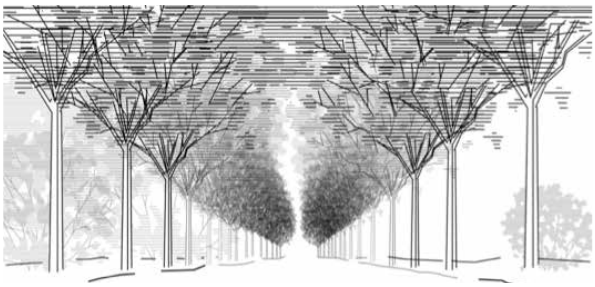


FIGURE 6.55 Spatiality of the *allées*. (Drawing: Author).

towards both the Place de la Fontaine aux Lions and the Avenue Jean Jaurés, while the Theatre Paris-Villette, the Grande Halle and the Pavilion Janvier are located one hundred metres back from the avenue and lie in the park but face the square. The Galerie de la Villette and the Allée du Zénith also terminate here. As such, instead of setting a clear spatial division between park and city a choice has been made to realise a hybrid space here, a foyer' to the park proper. With no natural features save the clattering of water from the fountain, its openness and the panorama of the sky above, it is barely recognisable as (conventional) park space. Its contrast with the Euclidean spatiality of the avenues and boulevards in the rest of the city do not qualify it as an urban space either. A similar situation occurs at the northern entrance to the park with the forecourt to the Cité des Sciences.

***Galerie de l'Ourcq***. Running east-west along the canal, the Galerie de l'Ourcq is a feature with a similar sine-wave roof, but in this case detailed as a raised walkway at the same height as the roof of the Galerie de la Villette. It spans the park in the east-west direction, following the canal's southern quay from the mouth of the Petit Darse to the Boulevard Périphérique. The spatial definition of the line is primarily defined by the length and size of the walkway. As with the Galerie de la Villette, its technical and architectonic detailing generates the particular spatial character, by forming both a canopy and architectonic screen between canal and park [Figure 6.54]. It also connects to the first floor levels of the five folies lining the southern canal quay, which help to bolster its screening effect and generate an arcade-like space beneath.
Although shorter than the Galerie de la Villette, the Galerie de l'Ourcq has potentially more of a spatial impact on the park, given that the canal it lines extends beyond the park boundary, and that together with canal and quays brings a significant spatial 'interruption' of the park is generated. This interruption is accentuated by the bulk of the raised walkway and its function as a balcony to overlook the park areas north of the canal. The galeries thus set up extensive visual axis in the park, as well as alternative spatial vantage points through changes in level. These dramatically expand the visual field within the park, especially along the Canal de l'Ourcq. At the same time the architectonic form of the galeries divides the park into quadrants, adding new divisions to a site already strongly partitioned and fragmented.

***Allées.*** As compared to the scale of the *galeries*, the Allée du Zénith and Allée du Belvédère are smaller-scaled linear elements in the park, formed by broad, paved routes lined on either side by a row of plane trees. Now that the trees have matured, their crowns join to form a single canopy which, together with the columnar repetition of their trunks create distinctive, tunnel-like interiors in the park [Figure 6.55]. Spatially, they resemble the lanes planted in formal parks and gardens, but in contrast to these, they are not terminated by a point feature such as a fountain or sculpture, but merely finish with open lighted spaces at either end. Moreover, each row of trees begins and ends at a different position than the row opposite it. A third line, the Allée du Cercle, is also planted on either side with a row of plane trees in three segments of a circle, two of which lie on the other side of the canal [Figure 6.56].

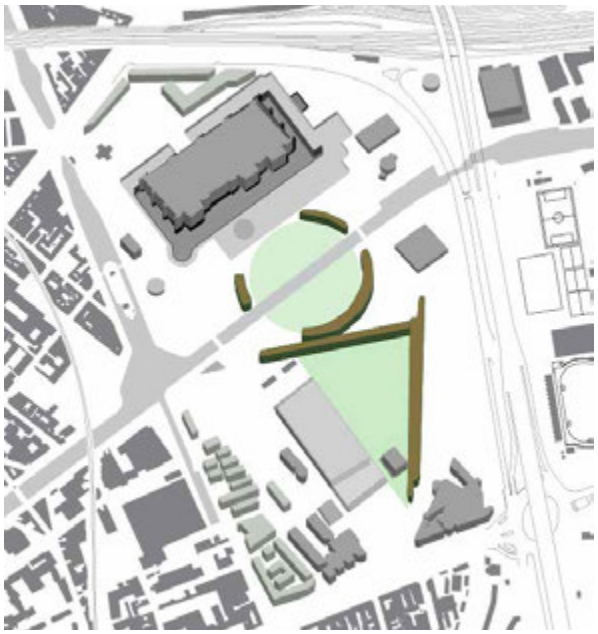


FIGURE 6.56 Axonometric projection: spatial configuration allées. (Drawing: Tim Peeters & Author).



FIGURE 6.57 Promenade de Jardins (Photo: Author).

***Promenade de Jardins.*** The Promenade de Jardins is a paved pedestrian thoroughfare varying in width between five and ten metres, which meanders through the park on both sides of the canal. Its spatiality is in the first instance defined by the character of the elements it crosses or passes, principally the gardens. The Promenade de Jardins also crosses the Galerie de la Villette in three places: at its start near the Pavilion Paul Delouvrier, near its junction with the canal and the Galerie de l'Ourcq, and again north of the canal. It also crosses the Allée du Belvédère three times, the Allée du Zénith twice and the Allée du Cercle once. Interaction with the *folies* occurs four times en-route: it passes under the Trabendo Restaurant Folie, climbs up through the Folie Échangeur, passes through the Folie Escalier near the Cité des Sciences, and finally under the Folie de l'Écluse near its finish at the canal St-Denis. The surface of the Promenade de Jardins also varies constantly along the route. Although mostly limited to one metre above or below grade, at a few points the vertical articulation of the Promenade de Jardins changes dramatically: at one point it passes through the Jardin des Équilibres seven metres above grade, offering views over the park and the city beyond. This panorama is repeated when the Promenade de Jardins crosses the canal over a second bridge at a height of six metres above grade, before descending to the other side and down to a level five metres below ground.

This elaboration of 'above' and 'below' ground reveals and emphasizes the horizontality of the site - a curious inversion of the conventional image of infrastructure cutting horizontally through undulating terrain. The Promenade de Jardins also has an exaggerated cross slope: it cambers continually to the left or right, in particular in the tight arcs and bends [Figure 6.57].

### 6.5.2.3 Surfaces

***Prairies***. The spatial form of the planes layer is generated by three large spaces in primary geometric configurations [Figure 6.58]. A lowered depression in which the Cité des Sciences stands forms a first (rectangular) space measuring 300 x 150 metres. A second - the Prairie du Cercle - is set up by the

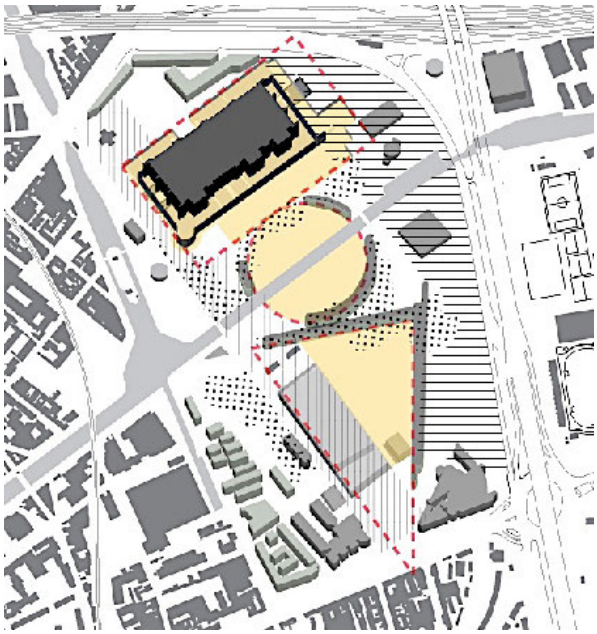


FIGURE 6.58 Axonometric projection: spatial configuration geometric surface planes. (Drawing: Tim Peeters & Author).

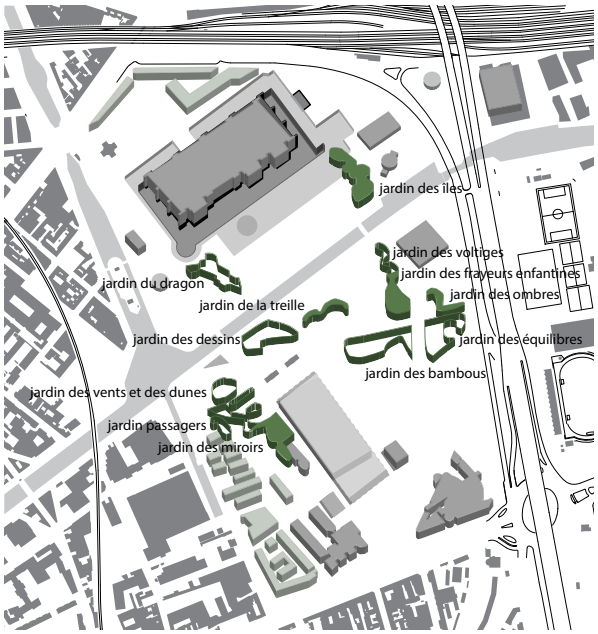



FIGURE 6.59 Axonometric projection: spatial configuration gardens planes.s. (Drawing: Tim Peeters & Author).

row of trees of the Allée du Cercle, and lies more or less symmetrically in front of the Cité des Sciences. The circle is divided into two by the passage of the canal, creating two lawns roughly one hectare in size. The convergence of the Allée du Zénith and the Allée du Belvédère near the Zénith venue, togetherwith the long façade of the Grande Halle, encloses a third, triangular void: the two-hectare large Prairie du Triangle. This lawn lies adjacent the Grande Halle, which thus resembles something of a forecourt lawn to the structure. The lowered bamboo garden and two folies also encroach on the space. Three other planes – that of the theme gardens, the Galerie de la Villette passage, and the ring zone, edge and overlay these figures. Following the meandering form of the Promenade de Jardins, the garden planes overly the primary geometric voids, while the Galerie de la Villette zone edges the three primary figures to their west. A final planes figure – the ring zone – owes its shape to the Boulevard Périphérique and houses an assortment of programmes and back-of-house facilities such as car-parking, storage and administration. It borders the three primary planes to the east.

***Theme gardens.*** Following the meandering form of the Promenade de Jardins, the twelve theme gardens vary in size from the smallest garden – l'Artere – Jardin des Dessins - 100 $m^2$ in size, to the Jardin des Bambous measuring in excess of a hectare [Figure 6.59]. Although connected by the garden Promenade de Jardins, the gardens have little or no spatial relationship with each other and do not follow any recognizable pattern or rhythm in the spatial sequence of the Promenade de Jardins . As such they have little effect on the spatial form of the park as a whole. Externally however, these gardens do influence the spatiality of the park through the effect of the chain of volumes of plantings following the line of the Promenade de Jardins . Now that trees and vegetation has grown, the volumes are significant factors in the park, bulking up the lines of trees along the allées and forming a concentration of higher vegetation around the Promenade de Jardins . Their locations thus collude to 'fill up' the park with a critical spatial mass of vegetation. The introduction of the theme gardens into the scheme brings a series of small-scale spaces to a site characterized by its large-scale industrial spatiality. The contrast between the intimacy and interiority of the gardens and the vast exteriority of the canal, galeries and Cité des Sciences is immense; their integration in the scheme generates a range of spatial typologies in a limited site area. Together with the Promenade de Jardins , the gardens also establish a human scale in the park.



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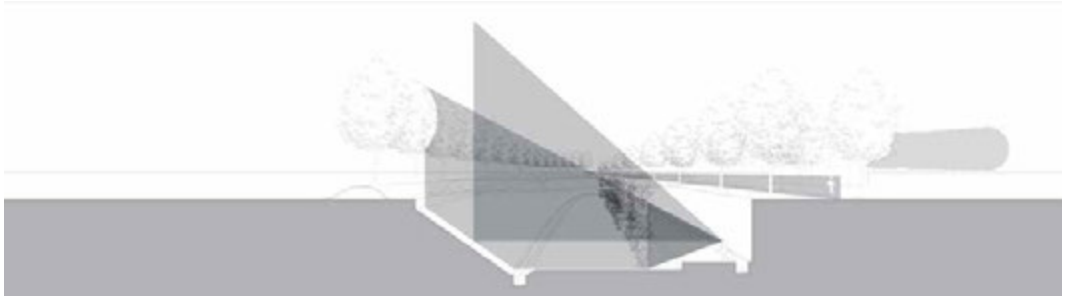


FIGURE 6.60 Sectional Elevation Jardin des Bambous. (Drawing: Tim Peeters & Author).

Spatially, the gardens can be divided into four spatial types: endotic spaces, enclosed spaces, raised spaces and sunken spaces. Endotic gardens are formed by stands of trees creating a canopy above the gardens, generating interiors within the park. These include the Jardin des Miroirs, Jardin des Îles, Jardin des Ombress, Jardin de la Treille and the Jardin des Frayeurs Enfantines. Three gardens enclosed by walls or vegetation form open rooms within the park. They include the Jardin des Vents et des Dunes, Jardin Passagers, l'Artere - Jardin des Dessins and the Jardin des Voltiges. Two gardens - the Jardin des Equilibres and Jardin du Dragon - are raised on a podium or plinth, and planted out with solitary trees. A single garden is sunken five metres below the ground - the Jardin des Bambous [Figure 6.60]. In comparison to much of the rest of the park, this below-ground world is defined not only by its spatiality and visual stimuli, but by its sensorial properties. Descending into the garden, the sound of cascading water gradually drowns out the outside world. Artificial frog sounds take over, while a narrow path over running water leads through dense swathes of bamboo. The environment is warm and humid and the vegetation seems to go on forever. More and more, auditory and haptic stimuli dominate, complementing the visual sensation of bamboo.[213]

## 6.5.3 Programme Form

### 6.5.3.1 Built Programme

The approach in accommodating the built programme was to identify the total area of functions that needed to be housed within a built or covered space, then to 'explode' and 'implode' it into unconventional combinations, before redistributing them across the site in the folies. In the realised park, these combinations were considerably less radical then the concept suggested, with many of the twenty-six folies housing only one type of programme. Moreover, in the period since its completion, many functions have been moved, amalgamated or removed from folies altogether, while others have been renovated to house other functions that were not envisioned in the original design [Figure 6.61].

The folies only accommodate a small part of the built programme however. As of 2015, the park included Zénith, a 6,300 seats concert hall; the Cabaret Sauvage, a performing arts venue with 600 seats; Trabendo, a 700 seats contemporary venue for pop, rock, folk music, and jazz; Tarmac de la

213 Van der Velde & De Wit, 2014.

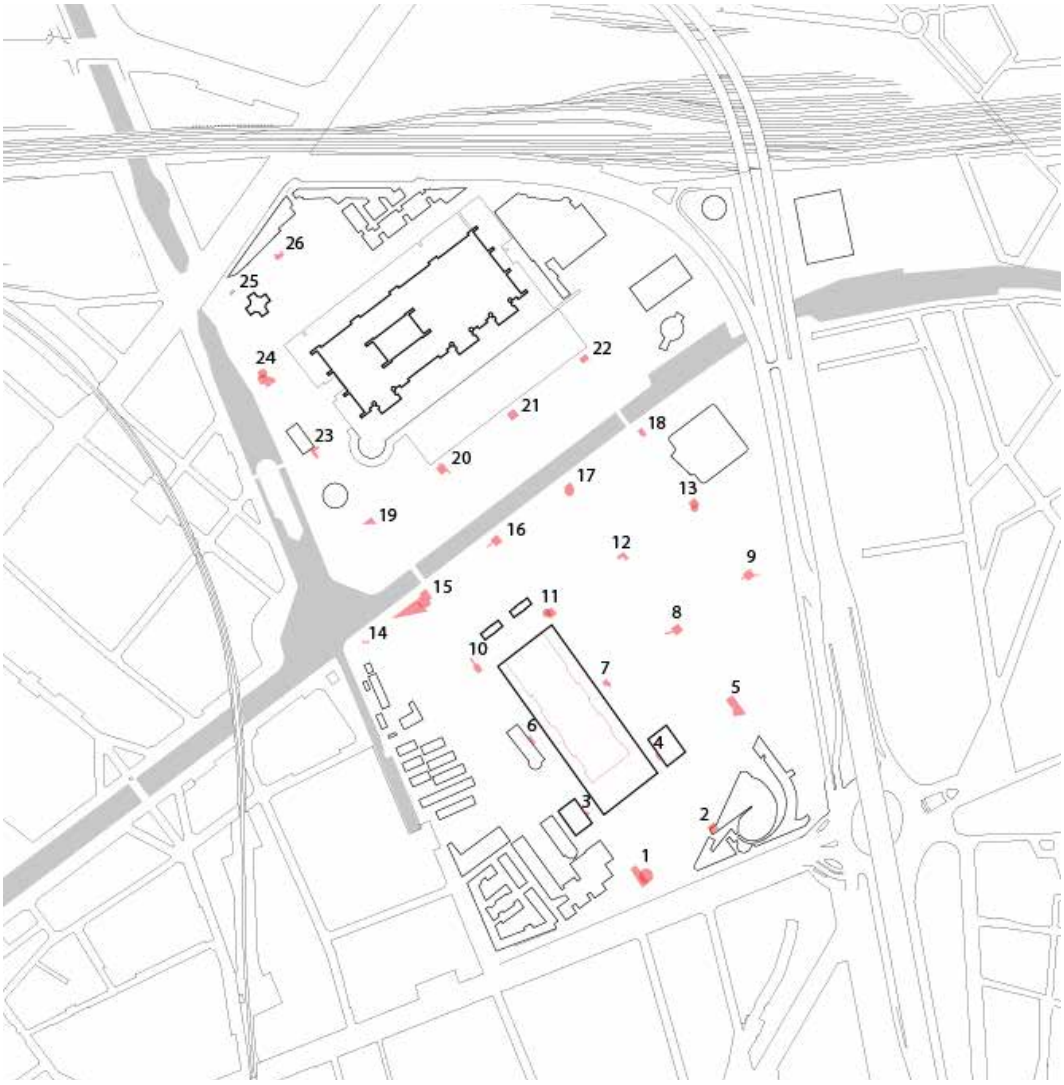



FIGURE 6.61 Distribution of Programme per Folie.
As of 2015, the programme in the folies includes: cafes and restaurants (the folie des visites [15], folie café [8] and the Quick Hamburger Restaurant [24]); Park offices and services (folie information Villette [1], antenne de secours [7], folie ateliers du Parc [6]); music venues (folie kiosque à musique [19], Trabendo [9] and folie médiation [11]); entrance porticos or ticket offices (folie du théâtre [3], folie Janvier [4], folie Argonaute [21], folie de l'écluse [23], and the folie billaterie du Zénith [13]; workshop and ateliers (folie musique [5], folie ateliers du Parc [17]); level changes (folie rond-point des canaux [14], folie échangeur [18], folie du canal [16], and folie escalier [22]); lookouts (folie belvédère [12], folie observatoire [20]); and playground entrance (Folie des vents et des dunes [10]). Two remaining folies in the far north of the park have minor functional roles: the folie horloge [26] is an elaborate clock, while the éclat de folie (25) does nothing more than signpost the northern entrance to the park. (Drawing: Tim Peeters & Author).

Villette, a venue for world performance art and dance companies; Le hall de la Chanson (at Pavillon du Charolais), a 140 seat theatre for French folk music; the WIP Villette, a space dedicated to Hip-Hop culture, social theatre, art work initiatives, and cultural democracy; espace chapiteaux, a permanent marquee for contemporary circus, resident and touring companies; Pavillon Paul-Delouvrier, an event space for conferences, workshops, and social events; Théâtre Parc-Villette, a small actors' theatre and acting workshop; cinéma en plein air, an outdoor movie theatre; the Grande Halle de la Villette, the former saleyards and abattoir now hosting fairs and cultural events; and the centre équestre de la Villette, an equestrian centre with year-round events [Figure 6.62].



FIGURE 6.62 Distribution of Remaining Built Programme. (Drawing: Tim Peeters & Author).

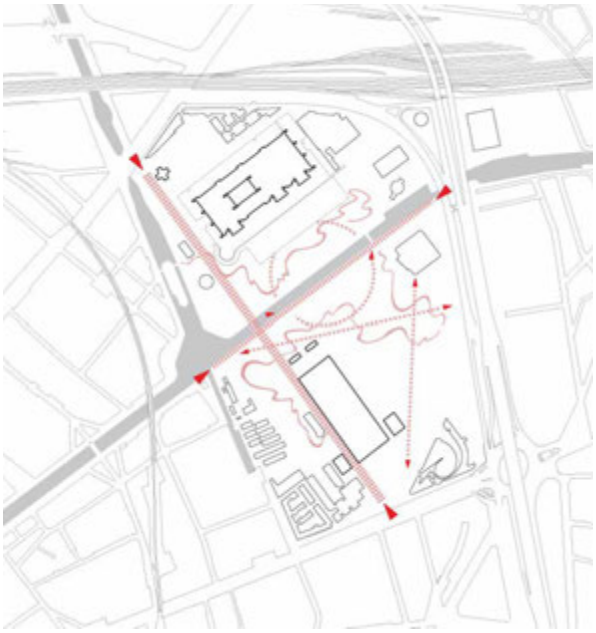


FIGURE 6.63 Plan projection: Primary, secondary and tertiary lines of movement. (Drawing: Tim Peeters & Author).

### 6.5.3.2 Circulation & Access

The circulation and access requirements of the brief and organized in an autonomous system of movement lines through the site, separated into primary (galeries), secondary (allées) and tertiary (Promenade de Jardins) systems. The galeries form the primary circulation lines in this system, with the Galerie de la Villette connecting the major park entrances on the Avenue Corentin Cariou and the Avenue Jean Jaurès [Figure 6.64]. The Galerie de la Villette is also the principal connection between the major cultural park programmes in the park: the Cité de la Musique facilities (Cité de la Musique, Centre de Documentation de la Musique Contemporaine and the Conservatoire de Paris) and the Cité des Sciences (Cité des Sciences, Argonaute, Cineaxe and Géode). This north-south passage is the central axis of pedestrian movement in the park, but is also used by cyclists and an occasional service vehicle. Follies 1, 3, 6, 10, 15, 19, 23 and 24 are also situated along this line. The second galerie - Galerie de l'Ourcq - forms a secondary line of movement across the park, connecting the two minor entrances to the park: the bridge across the mouth of the Petit Darse, and the viaduct under the Boulevard Périphérique. This movement line is doubled by the raised promenade walkway five metres above grade, forming in effect two movement lines from east to west. Where the lines cross each other the galerie de la Villette is raised to the same height, forming a junction of both routes five metre above grade, where park users from both directions converge. Folies 14, 15, 16, 17 and 18 are also situated along this line.
The Allée du Belvédère, Allée du Zénith and Allée du Cercle form a secondary set of circulation lines in this system. Leading from the entrance on the avenue Jean Jaurès to the Zénith concert venue, the north-south oriented Allée du Zénith crosses the east-west oriented Allée du Belvédère, which links the entrance at the Petit Darse with the Zénith concert venue. These allées also provide access to the lawn areas of the Prairie du Triangle and the Prairie du Cercle, as well as some of the theme gardens. The allée du Belvédère also crosses the Galerie de la Villette, generating a new convergence of pedestrian movement nearby the junction of the Galerie de la Villette and the Galerie de l'Ourcq. A third line - the Allée du Cercle, made up of three tangents of a circle, has little bearing on connectivity within the park but it too intersects with another line - Galerie de l'Ourcq.

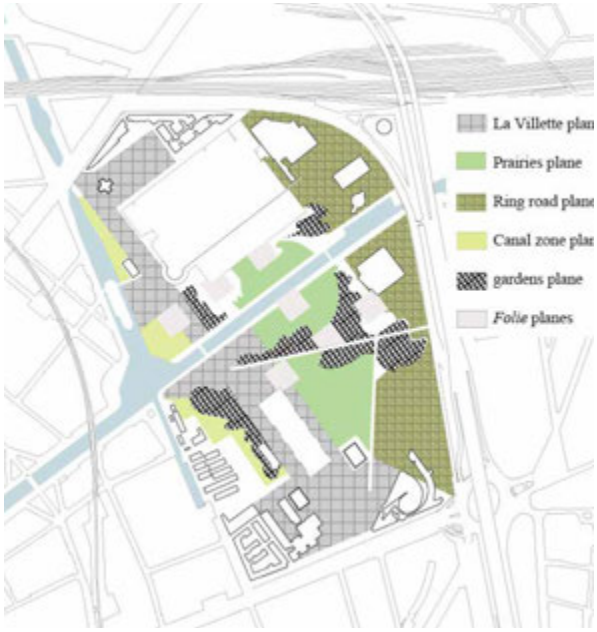



FIGURE 6.64 Plan projection: Programme form surface planes. (Drawing: Tim Peeters & Author).

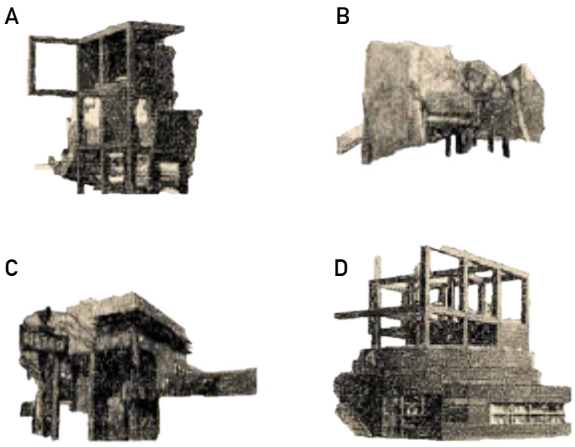



FIGURE 6.65 Folie Rond-pont des Canaux (a); Folie Mediation (b), Folie Observatoire (c), folie belvedere (d).

Starting adjacent the Grande Halle and weaving between the grid points and the *allées*, the garden Promenade de Jardins forms a third circulation line in the scheme. In contrast to the recti-linearity of the allées, the form of this route is sinuous and meandering. Aside from linking the twelve theme gardens together, the Promenade de Jardins does not connect functions and activities together, but does connect the two halves of the park separated by the canal. This line also repeatedly crosses other lines in the system such as the allées and the galeries, generating convergences of movement and unexpected encounters.

The remaining programme, consisting of spaces for events, markets, games, play and sport etc. required large areas of outdoor surfaces, and are organized into a third system of surface planes [Figure 6.64]. The primary circulation access along the Galerie de la Villette widens into a plane of hard surfaces for activities such as markets and events. A central plane figure made up of the lawns of the Prairie du Triangle and the Prairie du Cercle accommodates sport and play areas, and large outdoor events. A third plane edging the prairies follows the line of the Boulevard Périphérique and houses an assortment of programmes and back-of-house facilities such as car-parking, storage and administration. It also includes the Cité de la Musique, former car-park (now the Philharmonie de Paris), the Zénith complex, the Cabaret Sauvage, centre Équestre de la Villette, the Cité des Sciences storage hall and the office complexes of the Porte de la Villette. A similar but smaller services plane lines the eastern boundary of the site bordering the Canal St. Denis and the Petit Darse. Overlaying these planes are the individual theme gardens, of which some house play and sport facilities such as the Jardin des Vents et des Dunes, the Jardin des Voltiges, the Jardin des Équilibres and the Jardin du Dragon. A final layer of paved 'squares' accompany folies 11, 12, 13, 17, 19, 20 and 21. These spaces are intended as spill-over spaces for functions such as seating terraces near cafes. Characteristic for the planes is their distinctive surface differentiation, with different materials intended to inherently 'organize' various functions and activities.



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## 6.5.4 Image Form

### 6.5.4.1 The Folies

The folies signify a complex of connotations in the park scheme. A first connotation is generated by the space-frame - the red steel construction that forms their structural modular basis. Divided into three parts in each direction, the space-frame forms twenty-seven sub-frames that are halved, split, reduced or otherwise broken down to form a unique 3-dimensional figure. The appearance of the folie is thus the first instance one of association with (modern) architecture - its elementary forms, with the space-frame as dominant universal module. The frame is also embellished with generic building elements such as walls, floors, roofs, stairs, ramps and windows. In turn, these elements signify architectural archetypes such as atriums, balconies, foyers, hallways, loggias and patios, and generate an aesthetic of the modern architectural edifice. This imagery however, is compromised by the choice to build all the folies from one material – steel - and to colour them all red, which mutes particular associations generated by form, colour and materiality. In this compromising process, a range of other images may be evoked: linear space-frames may evoke bridges, arcades or even forest galeries; enclosed vertical modules can conjure up images of towers or stairwells; and rounded walls might arouse cosmic objects or the hulls of ships. The combinations or regroupings of industrial, urban and natural component forms posit the folies as a symbol of urban contemporaneity. While no distinctive image archetypes can be identified, the abstract form combinations of each folie evoke the range of images of the contemporary urban landscape, an amalgam of architecture, landscape, garden, city and nature [Figure 6.65].
The heterogeneity in the appearance of the park is both exaggerated - and corrected - by the aesthetic of the pavilions. While an infinite number of combinations of space-frame, façade and architectural elements are theoretically possible, each folie shares a striking red colour, cubic modular frame and metallic materiality. This approach generates both a collage of the diversity of the contemporary city, and at the same time a unique image in its own right. Wherever one looks, this image is visible: as fragment of a façade glimpsed through trees, as a space-frame entrance to a building, or a free-standing pavilion in the middle distance [Figure 6.66]. Their sheer number, replicated twenty-six times in a relatively small area, further compound this unicity, creating a powerfully homogenous semantic field - of distinctly heterogeneous forms.

### 6.5.4.2 Galeries, Allées & Promenade de Jardins

***Galeries***. A similar pattern of compounded meanings emerges in the appearance of the galeries. In the first instance, the form and materiality of the Galerie de la Villette references modern industrial features such as conveying systems, an image it shares with the Galerie de l'Ourcq, where the sine-wave roof is replaced by a walkway at the same height, paraphrasing the steel walkways of industrial complexes the world over [Figure 6.67]. The use of the word galerie however, indicates the more particular associations intended by their appearance. The term galerie first emerged in the Francis I Galerie in the Château de Fontainebleau where the Court socialised and promenaded inside (1528). This space was a forerunner of the Apollo Galerie in the Louvre (1661) and the Galerie des Glaces in Versailles (1678). The galerie as architectonic type subsequently evolved into the art gallery (galerie d'art) and the portrait gallery (Galerie de Portraits). In the late eighteenth century the galerie as typology appeared in the urban realm with the opening of the Galeries de Bois inside the former Royal Palace - a covered, traffic-free space where traders sold their wares to the public. The first purpose-built

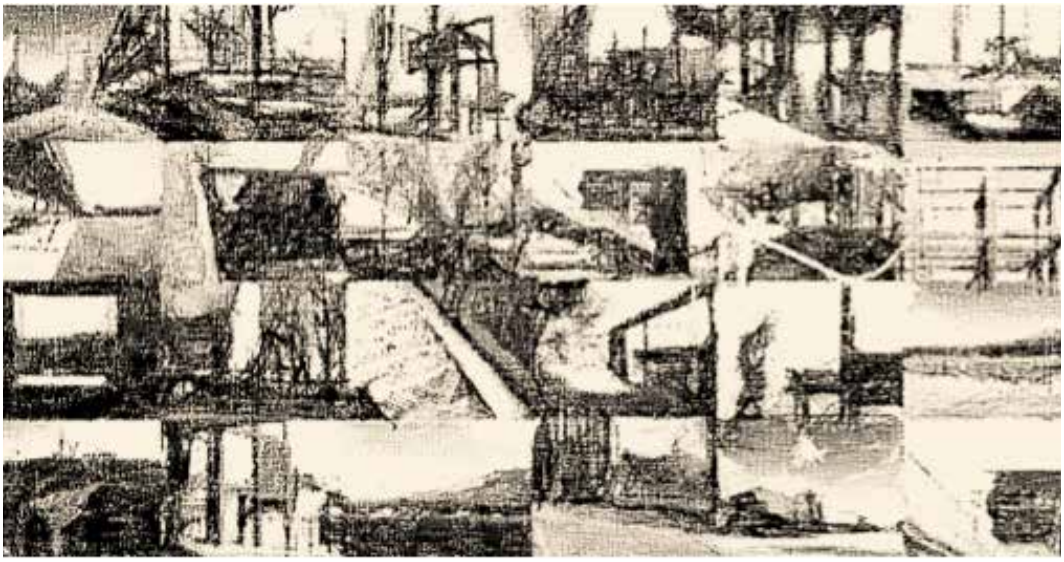


FIGURE 6.66 Folie Fragments. (Image: Author).



FIGURE 6.67 Galerie de l'Ourcq. (Image: Author).

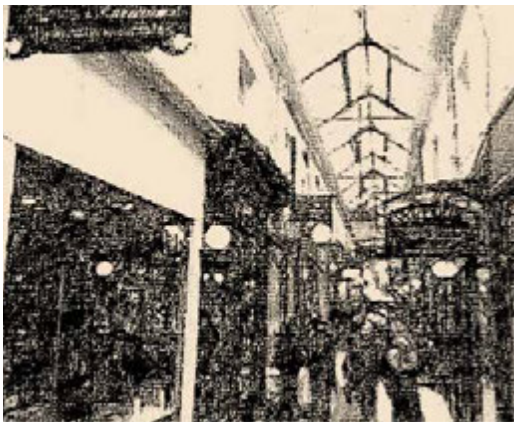


FIGURE 6.68 Passage des Panoramas. (Image: Author).

glass-roofed urban galerie was the Passage des Panoramas, a glazed-in alley situated just off the rue Vivienne [Figure 6.68]. Between 1800 and 1860 around thirty arcades were subsequently constructed in and around this project. These arcades - pedestrian passages linking two parallel streets – were roofed in glass and steel, generating a striking and particular appearance. In transferring the arcade to the park, Tschumi transferred this 'hi-tech' aesthetic to the idiosyncratic materiality of the galeries, evoking passage-like urban interiors through the park.

***Allées***. A similar 'borrowing' of image occurs in the *allées*. The rows of London plane trees lining each of the avenues plainly evoke the ubiquitous avenues and boulevards of Paris [Figure 6.69]. Moreover, paved as they are in bitumen and cobblestones, the routes make the park visitor feel they are strolling down a Parisian avenue, albeit one whose building frontages have long since vanished [Figure 6.70]. The French term *allée* however, is derivative of the French *avenir* (approach), which denotes a line demarcating and accentuating arrival. By extension, the allée denotes an avenue in a park or garden with a line of trees or shrubs. The use of this term thus introduces an image type from the formal garden, but given the opportunity to develop the image form of the allées with a visually interesting planting scheme, Tschumi chose instead to paraphrase an urban feature by using a 'standard' Parisian street tree.



FIGURE 6.69 Allée du Belvédère. (Image: Author).



FIGURE 6.70 Rue Royale 1906. Emanuel Phillips Fox (1865 – 1915).



FIGURE 6.71 Promenade de Jardins. (Image: Author).



FIGURE 6.72 Jardin des Dunes et des Vents. (Image: Author).



FIGURE 6.73 Jardin de la Treille. (Image: Author).



FIGURE 6.74 Jardin des Bambous. (Image: Author).



FIGURE 6.75 Jardin des Miroirs. (Image: Author).



FIGURE 6.76 Prairie du Triangle. (Image: Author).

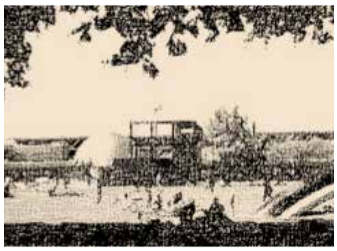


FIGURE 6.77 Prairie du Cercle. (Image: Author).

**Promenade de Jardins.** The multiplicity of meanings in the appearance of the *follies, galeries* and *allées* also extends to the Promenade de Jardins. With its winding, undulating trajectory, the Promenade de Jardins initially references landscape 'lines', such as a river meander or a path winding up a steep hillside [Figure 6.71]. As various commentators have noted however, the curvilinear figure of the Promenade de Jardins bears a more than casual resemblance to the lines of gardens and parks in English landscape style such as the nearby Parc des Buttes-Chaumont. Its sweeping curves and measured parabolas support this conclusion; this is no trope of a spontaneous hillside pathway but a paraphrasing of the lines of a picturesque park. This conclusion is backed up by Tschumi's concept for the route as 'cinematic promenade', whereby the Promenade de Jardins represented the sound-track of a film and the gardens along the route its frames, positing the Promenade de Jardins in the tradition of the narrative routing of nineteenth-century parks.

### 6.5.4.3 Gardens & prairies

***Gardens***. The twelve theme gardens along the Promenade de Jardins further reiterate the multiplicity of imagery observed in the lines and surfaces layer. Some gardens evoke scenes and objects from vacations such as the dunes, wind turbines, moving sails and hulls of ships in the Jardin des Dunes et des Vents [Figure 6.72]. Other gardens reference nature in specific ways: a grove of spruce and birch trees in the Jardin des Frayeurs Enfantines invoke a fairy-tale forest, and vines and climbing plants in the Jardin de la Treille reference orchards or allotment gardens [Figure 6.73]. Distinctive also for many gardens, is their exchanging of symbols and metaphors for haptic imagery. Tree plantings in the Jardin des Ombres plays a game of light and shadow on a mosaic pavement of black and white figures, and sounds accompany the visitor through the Jardin des Bambous [Figure 6.74]. Similarly, the fountains in the Jardin de la Treille are a tangible sensation of water, and the visual game played with mirrors in the Jardin des Miroirs is paired with the whistling of the pines and maples overhead [Figure 6.75].

***Prairies***. Finally, the image form of the remaining surfaces in the scheme – the Prairie du Triangle and Prairie du Cercle – can be seen to evoke the pastoral imagery of meadows and grasslands of the agrarian landscape [Figure 6.76 & Figure 6.77]. This imagery however, is also synonymous for parks and urban public open spaces the world over, positing their meaning as images in both the urban realm and the countryside.

## 6.6 Discussion

The breakdown of the scheme into (compositional) procedures using the Delft method reveals a series of themes for a concluding discussion of the project in respect to both a critique of the project and an elaboration of (procedures of) landscape design-as-composition praxis. Conclusions from earlier analytical steps also input this discussion.

### 6.6.1 Genius Loci of the Territory

A first relevant point of discussion is that - contrary to the designer's claims - the plan configuration of Parc de la Villette indeed responds to site morphologies in different ways. In the first instance the *folie* grid resembles an urban grid: lines, points and planes of Cartesian geometry translated into infrastructure, nodes and parcelling patterns. Superimposing a Cartesian grid onto the site can thus be interpreted as an attempt to contrast the natural form of the site (in the same way the grid draws out and highlights the natural topography of Manhattan Island). In contrast to the Manhattan grid however, the *folie* grid is made up of a series of points and thus merely establishes an alternative ground-plane on the site. Moreover, the *folie* grid (indirectly) follows the underlying natural landscape geometry in its alignment: the orientation of the grid to the Canal de l'Ourcq forms a link to the geomorphology of the site via the 'geometric incarnation' of the stream that ran through the depression between hills of Montmartre and Buttes Chaumont into the Canal de l'Ourcq. This is also reflected in the orientation of the *galeries* that are aligned to the canal, as well as the plan figure of the Prairie du Cercle, whose hemispheres lies symmetrically either side of it [Figure 6.78]. In this regard, the configuration of *folie* grid and *galeries* to the Canal de l'Ourcq reveal a relationship between the

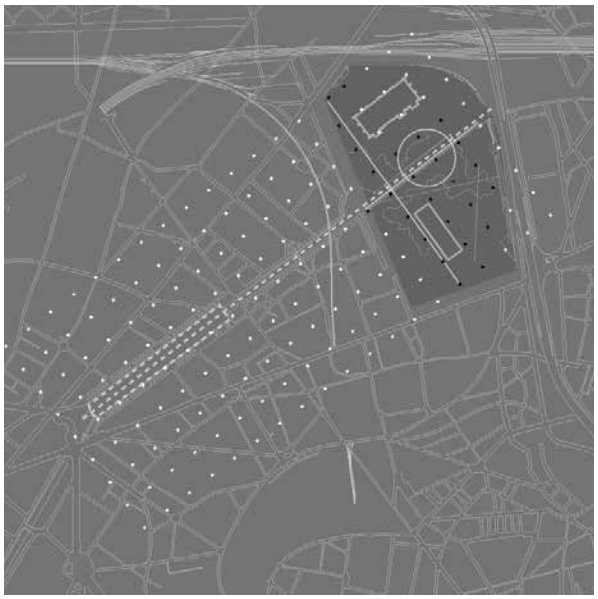


FIGURE 6.78 Alignment of the *folie* grid, *galeries* and prairies to the natural landscape geometry of the territory, via the Canal de l'Ourcq. (Drawing: Tim Peeters & Author).

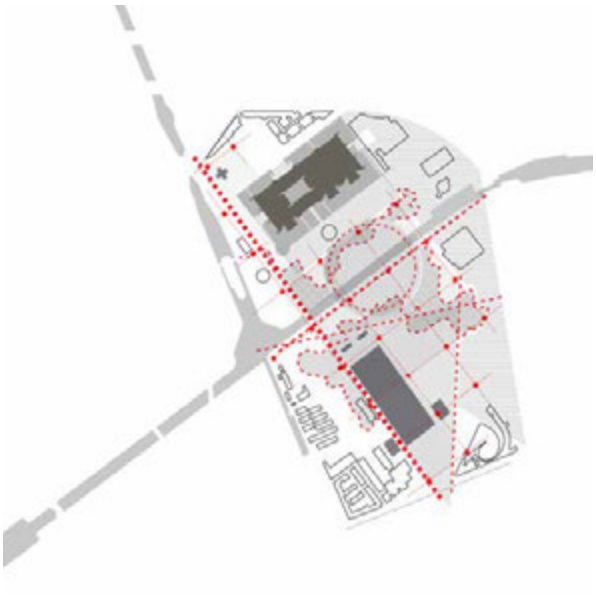


FIGURE 6.79 Composite of internal geometries. (Drawing: Tim Peeters & Author).

geomorphology of the site and the park's configuration, challenging the widely-held view – professed not least by the designer himself - that the scheme considered the site as a *tabula rasa*.
In addition, whereas the *folie* grid and *galeries* enhance and dramatize a site's topography in what might be termed a 'geometric reduction of the natural landscape', other geometries in the scheme react to site morphologies brought about by urban developments. The alignment of the Allée du Zénith for instance, engages with the site boundary formed by the line of the Boulevard Périphérique, while the Allée du Belvédère demarcates the form of the site between the turning basin and the ring. Similarly, the garden Promenade de Jardins explores the (maximum) shape of the site, and in introducing a new, informal geometry to the plan, intrinsically expresses the particular shape of the site [Figure 6.79].

In the context of a discussion and elaboration/ecdysis of compositional praxis, a plan configuration 'step' is clearly identifiable, one moreover resembling the Delft approach by developing the layout of the park as a reduction, rationalization and activation of a 'topographic genius loci'. This includes not only the natural landscape (topos), but also the overlying cultural landscape (locus) and the urban landscape system (nodus) in the Delft approach. The tools used to explicate the plan diagram moreover, make use of standard architectural drawing conventions, as does the Delft method.

## 6.6.2 Territorial Multiplicity

An expansion of the Delft method can also be noted however, in the attention given to the geometries of the natural, cultural and urban landscape in the scheme, which reveal the 'territorial stratification' of the (brownfield park) site leading to a necessary expansion of composition to elaborate site and context in new and different ways. This expansion is informed by the chequered history of the site prior to its designation as park that impacted on the natural and cultural landscape 'topography', which presented

critical challenges to the agency of (conventional) plan configuration. In little under 300 years, a series of urban transformations took place which left a palimpsest of conflicting territorial diagrams in place: early 18th century arterial road construction, late 18th century industrial and warehouse development, an early 19th century canal system, late 19th century military defence walls, cattle market and abattoir complex, early 20th century construction of a new abattoir and late 20th century infrastructure. By the time of the site's designation in 1982, urban patterns on and around the site presented a new design-technical challenge for a basic form procedure: the treatment of multiple 'geometric identities' of a site. The complexity of these different morphologies – and in some cases their conflicts and contradiction - meant that the definition of topographic genius loci is largely impractical, if not impossible.

### 6.6.3 Multi-scalar Morphologies

The 'territorial multiplicity' of this brownfield site was further exasperated by the problem of boundary definition. As a site, Parc de la Villette had never before existed as an entity, having been made up of multiple sites and multiple localities separated by canals and infrastructure. The necessity to resolve the border condition of the brownfield transformation park 'after the fact', validates Tschumi's claim to have subverted the notion of edge and context in his proposal, albeit more as a consequence of site conditions than design intent.[214] On a macro scale, the plan figure of Parc de la Villette is made up of two irregular residual shapes either side of the canal, a situation that contrasts to the nearby Parc des Buttes Chaumont with its distinctive outline and form [Figure 6.80]. In this sense La Villette typifies the boundary configurations of many brownfield parks with little clear definition of where the park ends and the city begins. This condition is exacerbated by the infrastructural context, with on the one hand an open, unobstructed transition between park and city along the Avenue Jean Jaurés, and on the other an impermeable barrier caused by the infrastructure of the Boulevard Périphérique. This colossal network of roads with associated embankments, flyovers, bridges and ramps snakes its way through the city and dominates the morphology of the district, impacting the form and the perimeter of the site and the figure ground relationship between park and city. Additionally, the ensemble of the Canal de l'Ourcq, the Bassin de la Villette, the Canal Saint-Denis the Pettit Darse (a small harbour aligned with the canal Saint Denis) form a third set of infrastructures impacting on the threshold between park and city.

In the scheme, the threshold is ultimately configured in plan by two main elements – the Canal de l'Ourcq (with on its alignment the folie grid and the Galerie de l'Ourcq) and the Galerie de la Villette. They form the 'common plan figures' of this brownfield transformation – geometries shared by city and park. A consequence of the approach is that the morphological impact of the park far exceeds its boundaries. Together with the canal alignment and the Galerie de la Villette its 'reach' extends the length of the canal and beyond the site boundaries to the north and south. A similar figural interrelationship can be seen in other brownfield parks from the same period such as Parc André Citroën and Parc de Bercy [Figure 6.81].

214 Intriguingly, Tschumi's layout bears a curious resemblance to the heterogeneous morphology of the urban fabric surrounding the site. The basic form of the park can thus also be said to express, perhaps inadvertently, the morphology of the contemporary city.

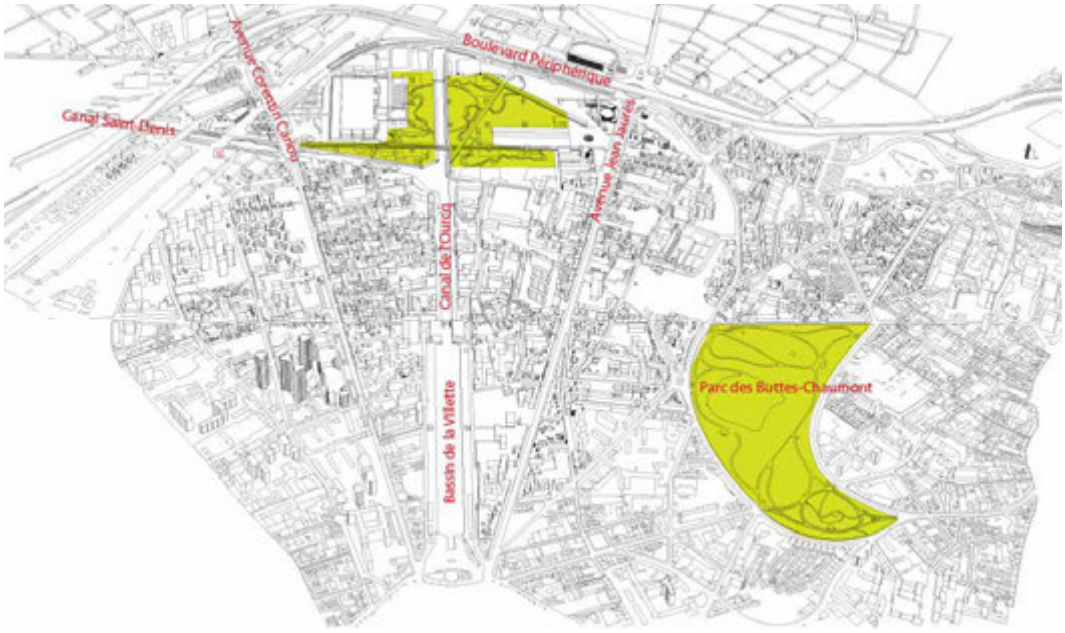



FIGURE 6.80 Birds-eye perspective projection: Nineteenth Arrondissement with plan outlines of Parc de la Villette and Parc des Buttes Chaumont. (Drawing: Tim Peeters & Author).

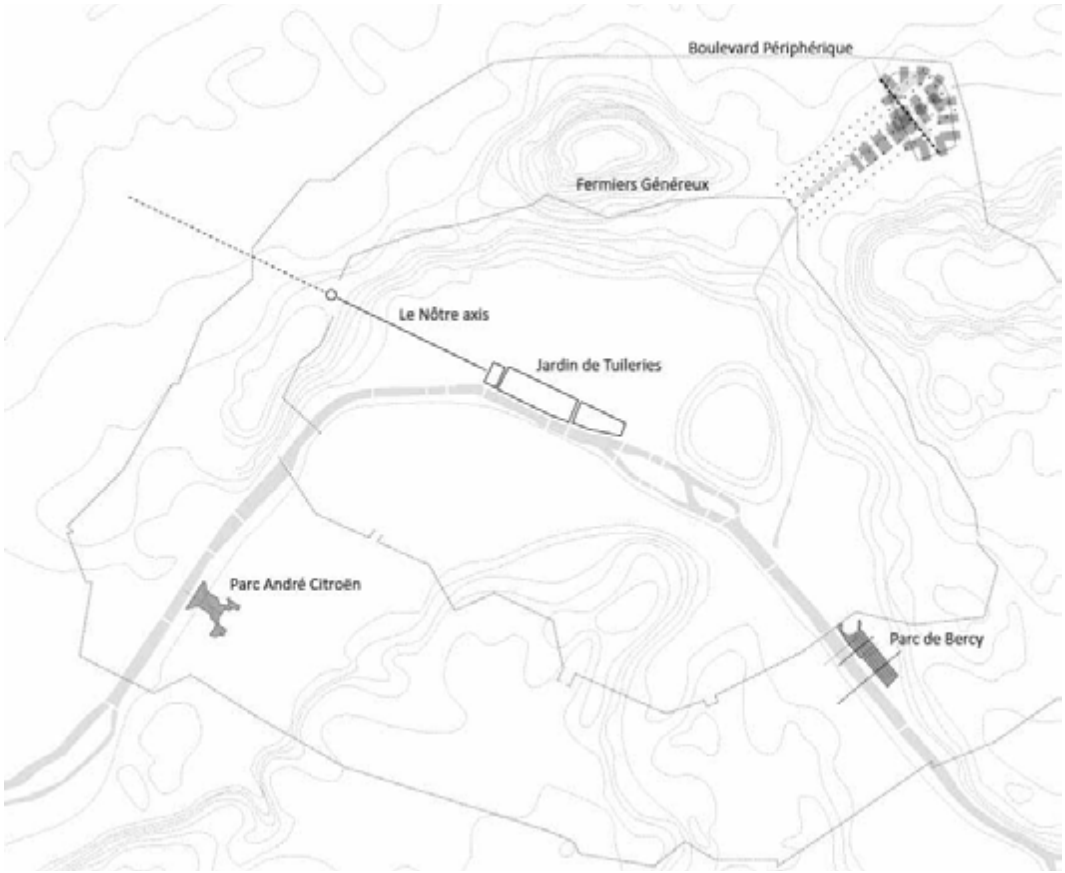



FIGURE 6.81 Plan Projection: Morphological situation and 'reach' of Parc de la Villette, Parc Andre Citroen and Parc de Bercy. (Drawing: Tim Peeters & Author).



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### 6.6.4 Dislocation

This multiplicity can also be said to refer to multiple readings of the site's form in space and time: the possibility of there being many morphological realities in the site's history, and also within different locations across the site. The plurality of 'figural identity' is therefore a defining feature of this brownfield park project, with Tschumi's expression of the spatial plurality of the contemporary urban condition in the layering of the composition an acknowledgement of the morphological multiplicity of the site. As a method then, Tschumi's response is a move away from determining a singular plan 'identity' of a site to establishing multiple plan figures in an assemblage. The notion of dislocation returns in the discussion of the programme (form) procedure.

### 6.6.5 A Euclidean Spatiality

A particular theme in the reception of the project in regard to discussion of spatial form as procedure, is the 'built-up' character in the park. This character is underlined by the spatial form analysis, which shows how the La Villette site included a series of large free-standing built forms (the Cité des Sciences, the Grand Halle, the Cité de la Musique, the Conservatoire de Paris, Zénith concert hall and an assortment of pavilions: De la Bourse, Janvier, Des Maquettes Le Charolais, and Paul-Delouvrier), to which the *folies* were added. Their uniform volume - recurring twenty-six times equidistantly across the site – attempted to offset the scale and spatial dominance of existing structures. Furthermore, structures such as the *galeries*, with their immense length and architectonic form, add to the scale and number of existing structures. The sum total of these structures is a multiplex of built forms which, when considered together with the vegetative elements such as bosques, avenues and gardens, forms a composite environment with a highly Euclidean spatiality [Figure 6.82].

Euclidean space draws on Euclidean geometry to interpret the world in terms of horizontal and vertical points, lines and planes, an approach resonating directly in the schemes layering concept. Translated into form, the scheme can also be said to resemble the 3-dimensional (Euclidean) space of a vast building, albeit made up of a diversity of horizontal and vertical planes. The 'concreteness' of the experience of this environment also resonates with the 'solidity' of a building; indeed a drawing of the park such as this one in a curious way varies little from the experience of the park noted in the Descriptive Site Observation. This Euclidean spatiality may be said to reflect Tschumi's background as architect, and in turn underline the overlap of architecture and landscape architecture in the Delft method observed in part 1.

### 6.6.6 Classical Garden Principles & Features

Part of the Euclidean spatiality of the scheme can be attributed to the manner in which the design draws on the (repertoire of the) classical gardens. Notwithstanding its patent architectural pedigree, the folie grid is rooted in the classical garden design tradition via an understanding of the point

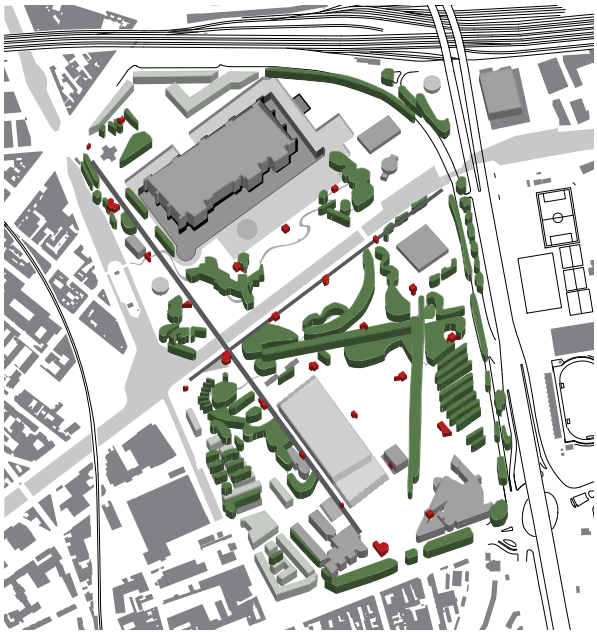


FIGURE 6.82 Axonometric projection: Composite of Built and Vegetative Form. (Drawing: Tim Peeters & Author).

grid as an abstraction of nature in geometry. As such, the interpretation of nature as a cosmic set of mathematical rules formed the basis for the classic tableaux of the Italian Renaissance garden.[215]

Correlations also arise between the formal garden tradition and the folie grid in relation to the spatial resolution between park and urban context. With the folie grid aligned to the Canal de l'Ourcq and theextended axial ensemble of the Bassin de la Villette, the grid is linked to the canal axis, orienting the park towards the la Villette precinct. From one of the two bridges crossing it, the depth of the basin is apprehensible, drawing it into the park so that the two appear to be part of a single spatial ensemble. As such, the two bridges over the canal can thus be seen as novel iterations of the classical garden belvédère, but with only one orientation: the absence of a visual orientation point to the east negates the sense of visual depth; in this direction the spatial form of axis dissolves, replaced by only a general sense of openness and a skyline punctuated by occasional tower.

This ensemble also represents the reappearance of a strategy for the assimilation of city and countryside via the axial organization of space, which developed out the formal garden tradition in seventeenth-century Paris. The design-technical repertoire of the formal garden is based on symmetrical compositions composed around a central visual axis, which through perspectival manipulation creates

215 Whereas western medieval interpretations of nature viewed the terrestrial world as chaotic and exemplary of the fall of man, Renaissance thinkers looked on the chaos of terrestrial nature as another form of divine order, albeit well concealed. In unravelling this divine order, they turned to classical thinking of Plato to understand and imitate nature via mathematics, expressed in the axiom 'Natura artis magistra est' and leading to the development of an ideal system of proportions, dimensions and ratios derived from nature. This system also had as its basis the human figure, which was perceived as the vessel of divine order in that it was created in 'the image of God'. In architecture, the proportions of the human body, articulated in Vitruvius's De Architectura (25-23 BCE) were thus interpreted as diagrammatic of a cosmic nature, a metric diagram of the hidden order of nature. The preoccupation with the square grid can be attributed to the Renaissance architect, theorist, sculptor, painter, archaeologist and writer Leon Battista Alberti, in his De re aedificatoria developed a treatise on numbers, dimensions and ordering based on the dimensions of the human body, of which the square and was a central element. The square grid began appearing in plans and elevations by Renaissance architects from this point onwards.



FIGURE 6.83 Birds-eye perspective projection: Axial Assemblage Folie grid, Canal de l'Ourcq and the La Villette bassin. (Drawing: Tim Peeters & Author).



FIGURE 6.84 Overlay: plan figure Versailles on plan figure Parc de la Villette. (Drawing: Tim Peeters & Author).

a maximum visual range.[216] In centering the composition, the axis becomes an independent element, establishing a new visual field through the telescopic effect of the line, directing the view towards an artificial horizon. Exemplary for this technique was the transformation of the Jardin des Tuileries into the axis of the Cours-la Reine, by André Le Nôtre. Between 1664 and 1680, Le Nôtre converted the Jardin des Tuileries from a rectangular court garden into a three kilometre long axial ensemble of spaces extending west through the city walls and across the Seine to the Butte de Chaillot.[217]

The spatial integration between the folie grid and canal axis at Parc de la Villette bears a strong similarity to techniques derived from this repertoire. An important difference with the Cours-la Reine however, is that the alignment of the folie grid to the canal axis is not so much an extension or unification of the two geometries into one composition, as it is an assemblage of two spatial entities together; the grid retains its internal order, while the canal axis can similarly still be read independently of the grid [Figure 6.83]. The assemblage does however dissolve the park boundaries and enlarge its spatial form to visually encompass the entire Bassin de la Villette ensemble, i.e., the technique achieves a similar outcome but in a different way. The use of the grid at Parc de la Villette thus draws on its later incarnation as organizational device for urban design in grid cities.

A similar analysis can be carried out for the *allées*; these features resemble elements of Baroque gardens that emerged in the enlightenment period of seventeenth-century France, such as the axial spatiality of formal gardens like Versailles. Overlaying the plan figure of Versailles over the plan figure of Parc de la Villette reveals a striking similarity between the two plans, but while the geometrical configuration of vegetation lining an axis is related to the formal garden, the *allées* do not manipulate the axis with the play of topography or in the scaling of elements as the formal garden did [Figure 6.84]. They also neglect a critical aspect of the repertoire of the formal garden: a spatial axis is invariably positioned perpendicular to the facade of the central building, and extends either to the horizon (such as at Versailles)

216 Steenbergen, 1990.

217 Steenbergen & Reh, 2011.



FIGURE 6.85 Overlay: plan figure Parc des Buttes-Chaumont on Garden Walk,Parc de la Villette. (Drawing: Tim Peeters & Author).

or to a statue or structure. Thus, as in the use of the rational repertoire for the *folie* grid, the axial arrangements at La Villette can instead be said to reflect a return to the axial organization of baroque urban plans, which emerged out of the garden design repertoire of the Baroque period.

A further correlation between the classical garden tradition and the scheme lies in the shaping of the Promenade de Jardins . In comparison to the *galeries* and *allées*, the Promenade de Jardins weaves through the park in sinuous twists and curves, a feature that conspicuously resembles lines from nineteenth-century landscape parks such as Parc des Buttes-Chaumont nearby. As such, this feature resonates with the pictorial techniques from the English landscape garden: pathways laid out to reflect and dramatize the physical topography of a site, reflecting and expressing the underlying landscape form. A critical condition for the spatiality of the Promenade de Jardins at La Villette however, is its lack of articulation; with its surface more or less levelled, the only three-dimensional articulation is presented by on-site (infra)structures. The Promenade de Jardins thus uses the site configuration and structures as a 'surrogate' landscape morphology, exaggerated with arcs and curves [Figure 6.85].

Subtle variations in the verticality of the Promenade de Jardins however, do introduce a spatial dynamic to the line, setting up a spatial experience that - with a little imagination – resonates with the paths of Buttes-Chaumont. Similarly, the exaggerated meander of the Promenade de Jardins at La Villette creates a maximum length of pathway within the bounds of the park, a subtle but important privileging of ambling and the delaying of 'arrival', above the most effective movement between two points. The meanders and undulations of the Promenade de Jardins moreover, promote the activity and experience of walking by introducing incremental apprehension into the park: the journey and the destination are only revealed to the walker by degrees over time.

### 6.6.7 Route Itinéraire

Despite the resonance of the Promenade de Jardins to nineteenth-century parks such as Buttes Chaumont, the intended experience of the 'garden walker' was claimed to be very different to the incremental apprehension of the English landscape garden. Tschumi stated that the scheme substituted the contiguous (urban) plan with the discontinuous 'montage', using the analogy of film to describe "a segmented world in which each fragment maintains its own independence, thereby permitting a multiplicity of combinations".[218] In the first instance, this idea resonates with the concept of 'panoramic perception', the staccato series of landscape images made possible by nineteenth-century train travel, whereby the frame of the train (window) replaced by the frame of the film camera.[219] A similar narrative of disparate landscapes can be constructed along a walking route, a principal applied at Parc des Buttes-Chaumont.[220] Examining the concept of 'panoramic perception' at Parc de la Villette, we can note that each garden correlates to the visual 'bytes' of unrelated landscapes seen from the train, but with one important difference: the Promenade de Jardins allows for the mixing of 'frames' into various sequences its regular cuts and interruptions, whereas the perception from a train window (and the pictorial park path) is defined and continuous. Moreover, at regular intervals along the garden Promenade de Jardins elements such as the galeries, allées and folies interrupt the visual narrative.

In contrast to Parc des Buttes Chaumont, the Promenade de Jardins at La Villette is therefore not necessarily predicated on a narrative structure related to panoramic perception, but that the contrasting forms and images from other layers continually disrupt the spatial sequence and any narrative structure, such that the visitor builds a dynamic montage from disparate images apprehended on their (random) passage through the site. In this sense, the spatial variety and dynamic of this approach is more akin to the concept of the *route itinéraire* in the formal garden tradition. Contrary to the misconception that the spatial repertoire of the formal garden was predicated on visual perception from a stationary position, motion design was also an integral part of theses gardens. At Versailles for instance, the spectacle of features such as fountains, parterres, labyrinths and bosquets was to be experienced on extensive walks through the gardens. The route followed designated itineraries, crisscrossing the garden in an ad-hoc manner and leading from spectacle to spectacle, which resulted in a contrast of spatiality between the interiority of elements such as the bosquets, and the enormous spatiality of the central axis.

In conclusion, the Tschumi scheme deploys various aspects of classical garden design in the spatial configuration of the scheme, but with varying degrees of success, a situation that also reveals a lack of awareness of the tradition. Moreover, the scheme deploys many of the principles and features of classical gardens via their incarnation in the city, thereby missing the specificity and richness of the repertoire in the process. Furthermore, in respect to a discussion of landscape architecture as compositional praxis, the scheme also underscores the 'source-code' for the Delft framework in the classical garden tradition. In doing so, it also inadvertently exposes the bias of the Delft method for the idiom of architecture and its foundations. Conversely, we can also affirm that the Delft method, through its primary deployment as tool to examine the classical garden tradition, also reveals how complicit many of the gardens are to the idiom and discourse of architecture.

218 Tschumi, 1987, p.VI

219 Schivelbusch, 1986.

220 Freytag, 2003.



FIGURE 6.86 Plan projection: Composite Programme form. (Drawing: Tim Peeters & Author).

### 6.6.8 Programme as (Architectural) Procedure

A critical contribution of Parc de la Villette to the discussion on landscape architecture as compositional praxis is the subject of program(ming). What has distinguished the scheme from the start is its extraordinary density of functions and activities, with a focus on the arts and culture. In envisioning a new urban centre for the eastern suburbs, the competition brief called for a huge number of cultural and performing arts-based facilities, in part informed by the characteristics of a location altered by centuries of industrial use and removed from the public realm for so long. Whether the resulting scheme can in fact better be termed a 'cultural quarter' has been a recurring topic of discussion, but in any case it is clear that the boundaries of the park typology in terms of programming have been expanded by the scheme. Accommodating and configuring this programme thus formed a central factor in the design-technical elaboration of the scheme. In the frame of landscape architecture as compositional praxis, this focus underscores the demarcation of a programmatic dimension of landscape design, as couched in the Delft method. At the same time, this focus underlines the criticism of the similarity of the Delft framework to architectural composition; the strategy to divide the programme across three different layers made it possible to accommodate the programmatic demands of the brief within one site by overlaying them over one another, in much the same way as programme is spatially quantified and 'stacked' in the different floors of a building [Figure 6.86].

This conclusion is underlined by Tschumi's own observation that the park could be conceived of as one of the largest buildings ever constructed. The way programme was dealt with also reflected the dominance of architecture in the discussion on the competition entries, the Tschumi scheme, and the related discourse, which was largely preoccupied with the legacy of modernist dogmas and the future of architecture. A notable reflection in this context, is the contention that instead of delivering the requested '21st Century Park', Tschumi's scheme perhaps only (albeit at last) succeeded in creating a

park of the twentieth century.[221] The instruments to explore and represent programme configuration are also highly 'architectonic'; despite their graphic appeal, the drawings developed for the project are by-and-large creative variations of architectural representation (plan, exploded axonometric view, model, birds-eye view).

### 6.6.9 Programming Social Processes

What is otherwise a critical contribution to the discussion of landscape architectural composition arising from the programme form procedure however, is the attention paid to social dimensions of park design in the scheme. The translation of figural multiplicity to a multiple plan assemblage noted in the basic form procedure, augments a parallel strategy focusing on elaborating place as a process of social interactions. Casey (1997) notes that the scheme's superposition of layers is an attempt to bring about a tension between site and infrastructure in order to generate dislocating social events – and thereby place and meaning – via dislocation, as opposed to location. This thematic also emerges in the park brief, the design approach, the project reception review. A particular requirement of the brief was to bring all walks of urban life together in an ambitious social experiment, reflecting a move towards the urban park as a dynamic, socio-cultural mosaic (as compared of the static zoning of functions and users groups in parks from the functionalist period). In response, Tschumi's layering concept was intended to bring about the interaction of conflicting programmes and ensuing new forms of social contact in space and time. A critical intensification of focus on social programming in landscape architecture is introduced here; one moreover contrasting to the Delft method, which makes little reference to the social and is limited to a general division of programme into *otium* and *negotium*. Social interaction in the Parc de la Villette scheme however, is still elaborated in a largely formal way, with infrastructures for activities and events overtly shaped and materialized across the park. In this way, the scheme puts forward a relatively formal vision of designing for social aspects, with little room for changes in the use of the park in response to shifting demographics and emerging cultural practises. Critically too, the attention to process is limited to the social; there is little or no reference to facilitating ecological processes or the temporal processes of growth and seasonality.

A related topic impacting on the dimensions of compositional praxis is the dynamics of the design and construction process. The objective of the competition was to choose a designer to come up with a concept for a park that was to take many years to design and realise. The many political and economic variables meant that much of the designer's work would include the substitution of programmes and functions during the course of the project. Moreover, the commission was to incorporate input from other designers for many of the new buildings, as well as theme gardens. These factors clearly had an influence on the development of the concept of layering, which turned conflicting demands into design principles and allowed for flexibility and interchange-ability. Baljon (1992) remarked that the design was "exceptionally suited to involving various designers (artists, architects, garden designers, industrial designers)."[222]

221 Boersma et. al., 1991.

222 Baljon, 1992, p. 212.

### 6.6.10 'Programming' Place

What is perhaps most innovative to the explication of landscape architectural composition is that the approach also challenges conventional notions of landscape design as place-making praxis (geared towards unravelling and editing the unique physical characteristics of a locality). Instead, it explores a design operation that creates conditions to generate and change place through social activity and interaction. Notwithstanding Tschumi's own authorship in this approach, brownfield conditions themselves may also be said to partly motivate this development. As a site, Parc de la Villette had never before existed as an entity, always been made up of multiple localities separated by infrastructure. Its disparate, fragmented form is thus not one but a 'series of sites' in space and time. An already dislocated territorial condition can therefore understandably inform a concept of dis-location, and by extension to describe social interaction as the dominant device for 'making places'. Moreover, on a location with such aberrant characteristics, any new programmatic addition would also inevitably lead to some form of socio-spatial 'tension'. In this way the site also begets dislocation, suggesting that place-making in brownfield park praxis is primarily contingent on giving place for social interaction.

### 6.6.11 Urban Landscape Imagery and the Classical Garden

The analysis of the three layers of the scheme shows how the project builds up an extensive aesthetic language focusing chiefly on the (pluralistic) urban realm. The review of the project approach and its reception, as well as the contextual and historical overview, shows that this this language was also in part a response to the context of this brownfield site, characterized by a visual cacophony of large-scale industrial relicts, remnant infrastructures and disparate contextual features. As noted in the reception review, many landscape commentators berated the scheme for exceeding the bounds of how much 'urbanity' a park can sustain. Critical to this discussion however, is the evolution of classical garden features into urban features, a pattern revealed in the spatial form discussion. In the process of developing 'pluralistic' urban appearances for the park, the design team turned to the urban landscape (of Paris) for inspiration. The appearance of the *allées* for instance, resonates strongly with the leafy profiles of Parisian boulevards. This resonance stems from the origin of the boulevards in the formal garden repertoire, which developed in seventeenth century residential landscape around Paris. Avenues, *Cours* and *Allées* arose in gardens such as at Vaux-le-Vicomte, St. Germain, Trianon, Marly, St. Cloud, Meudon, Sceaux and Versailles. The avenues at Versailles were laid out outside the garden to give form to a new town adjoining the palace estate, while the avenues and allées at Marly, Saint Cloud, Meudon and Sceaux were enveloped by urban development and became part of the urban fabric. The transformation of the city under the direction of Georges-Eugéne Haussmann, Jean-Charles-Adolph Alphand and Jean-Pierre Barillet-Deschamps in the early nineteenth century, extended this formal garden vocabulary with a new system of *allées*, *promenades* and avenues through the neighbourhoods of Paris. In the context of landscape design history and urban development in the Parisian context, the *allées* at La Villette can thus be argued to in fact have originated in the formal garden. As such, in respect to a discussion of the ecdysis of landscape architecture as compositional praxis, the image form analysis again underscores the 'source-code' for the Delft framework in the classical garden tradition.

### 6.6.12 Semantic Plurality

In the first instance, a similar argument can be made for the *folies*. The idiosyncrasy of these objects reflects something of the etymology of the term, whereby the French *folie* implies foolishness – of the builder who erects a costly but unusable structure, although older meanings of this word infer 'delight' or 'favourite abode' (many French houses are referred to as *la folie*). A similar meaning is given in English to the term 'folly' when used to describe a building: "a popular name for any costly structure considered to have shown folly in the builder".[223] In the eighteenth and nineteenth century, small structures termed follies were erected in classical gardens to express virtues such as wisdom or country life through symbol, metaphor or association. Given their size and setting, the *folies* lean largely on this last usage of the term, but at the same time their instrumentality in lending meaning to the park is critically different to that of the classical garden folly. The multiplicity of images presented by the *folies* not only reference the follies of classical gardens, they also draw on contemporary urban landscapes, modernist architectural tropes, and building attributes. Moreover, presented as 'machines' to be inhabited by different programmes over time, the *folies* were conceived to replace stylistic connotations with programmatic combinations.

Tschumi's motivation for this strategy stemmed from a perceived dissociation between use, form and social values in contemporary (urban) societies. Using the analogy of madness, he described how the contemporary city and its parts were similar to the dissociative nature of schizophrenia and contended that the question of meaning becomes a question of our relationship within and between dislocated urban parts, asserting that the park is thus a 'formalization' of this process, an 'acting-out of dissociation'; within the park space, the *folies* were thus posited as "anchoring points where fragments of dislocated reality can be apprehended", having no pre-determined visual form but rather "dynamic constitutions" of the relationship between urban objects, events and people.[224]
The conventional notion of composition (as a synthesis of form and function) is thus replaced by a process of transformational relationships, whereby the architect is seen as the inventor of relations or permutations. Here then, the activity of design is the combining of a multiple set of variables: functional, structural, symbolic, temporal etc., and as such a statement on the interchange-ability of objects, people and events.[225] In the frame of the ecdysis of landscape architecture as compositional praxis, we may propose that the folies thus introduce a shift in the interpretative dimension of composition (image form) formulated by the Delft method. Their multiplicity suggest a shift in the role of the landscape architect from defining a fixed set of indexes, icons and symbols within a set narrative (as propagated by the Delft method), to an open assemblage of images allowing multiple interpretations.

### 6.6.13 Representing Nature

A somewhat opposing development in relation to the meaning of the project lies in the way nature is conceived and represented. Both the descriptive observations and the composition procedure

223 Barnhart, 1988. p. 168.

224 Tschumi, 1987. P. IV.

225 Tschumi, 1987.

revision reveal particular forms of nature representation in the theme gardens. The tropes of these gardens indicate a return to the symbolic and associative imagery of nineteenth-century parks that had become progressively marginalised in modernist schemes in the course of the twentieth century. Planting in Modernist parks was reduced to demarcating park functions, or to simulate botanic communities for ecological purposes.[226] In addition, the rise of normative thinking in the twentieth century also made its way into the design process, leading to the standardization of solutions and the subsequent erosion of the validity and authenticity of the municipal park; it was reduced to either a technocratic element for mass recreation, or a 'bio-cratic' element where nature was left to its own devices and human intervention was taboo.[227]

Depictions of nature in pre-Modernist parks drew on conceptions of nature developed in the classical gardens tradition. These conceptions emerged during the Renaissance period, catalysed by discourse on the distinction between designed landscapes and other forms of nature. An important treatise on this topic was Cicero's *De Natura Deorum* written in 45 BC, in which a philosophical dialogue on two different forms of nature was developed: the realm of the gods - a wilderness untouched by human hands - and the realm of man – an agrarian landscape of meadows and ploughed fields, orchards,



FIGURE 6.87 Frontispiece Curiositez de la nature et de l'art by l'Abbé Pierre le Lorrain de Vallemont (1705).

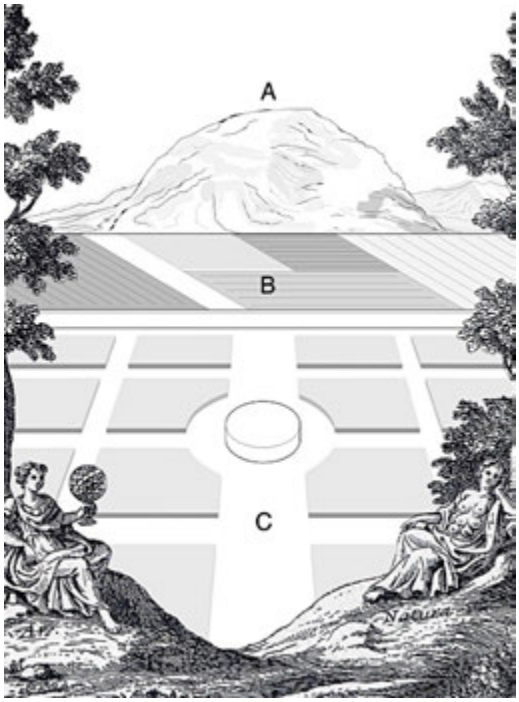



FIGURE 6.88 Abstraction of the three natures in the Frontispiece of Curiositez de la nature et de l'art: A. first nature (wilderness), B. second nature (field), C. third nature (garden).

226 De Jong & Dominicus-van Soest, 1999.

227 Steenbergen et. al., 1991.

terraces and rural settlements.[228] To these two natures Renaissance thinkers added a third nature - the garden or the designed landscape, a man-made expression of nature in which aspects of both the natural and the cultural landscape merge. Renaissance thinkers thus looked on designed landscape (gardens) as third nature, part of a triad of natures including first nature (wilderness) and second nature (the cultural landscape).[229] The three natures concept is depicted in the frontispiece to the Abbé Pierre le Lorrain de Vallemont's *Curiositez de la Nature et de l'Art*, published in Paris in 1705. The garden in the foreground is back-dropped by agricultural fields, which are in turn back-dropped by a small hillock covered by virgin forest, on which Apollo and the muse can be seen reposing [Figure 6.87]. Using the 'three natures' theory, the bamboo forest of the Jardin des Bambous and the fairy-tale woods of the Jardin des Frayeurs Enfantines, can be interpreted as depictions of the first nature of the wilderness, while the Jardin de la Treille may be said to depict the second nature of the agrarian landscape. Defining the garden as a merging of nature and culture – thus of first and second nature - then the gardens may also be considered 'third nature' representations [Figure 6.88].

The re-appearance of symbolic and associative representations of nature via the gardens at Parc de la Villette, reflects the larger recovery of a fascination for nature in the cultural consciousness towards the end of the twentieth century. De Jong (2007) reflects on how the resurgence of interest in nature and landscape in the post-modern period contrasted to the dominant twentieth-century modernist dogmas that saw nature and landscape as part of a subjective and emotional world that did not fit into the functional principles of architecture and urbanism. These developments paralleled a growing academic interest in nature representation emerging from garden history studies, which made its way into the wider profession. Representations of nature via gardens also appeared in other brownfield park projects around the same time: gardens were a central feature of the scheme for Parc André-Citroën, a brownfield park realised shortly after Parc de la Villette. This park is partitioned into different spaces or 'rooms' detailed in varying forms of naturalness, echoing the formal French classical gardens in which nature was dissected into formal categories such as the parterre, tapis vert and woodlands.[230] As compared to the innovation in compositional praxis demonstrated by the folies, these developments do not however impact on an ecdysis of landscape composition, but show the return to forms of representation of nature from the classical gardens.

### 6.6.14 Experimenting with the Haptic (Image)

What does however emerge in the scheme to influence the discussion of image form as procedure in landscape composition, is how some of the gardens in the scheme generate an experience (of nature) via alternative forms of perception than the visual. In the Jardin des Bambous, the park visitor is literally immersed in the 'ground' of the park, thereby obstructing (long-distance) sight and orientation.[231] As such, with its swathes of bamboo towering up out of the pit, the Jardin des Bambous is both a visual feature (in the park) as well as a haptic image for those engulfed in the vegetation

228 Hunt, 2000.

229 Lazzaro, 1990; De Jong, 1998; Hunt, 2000; Le Dantec, 2002.

230 Steenbergen & Reh, 2003.

231 This subterranean situation is allegedly a result of the garden designer's (Alexander Chemetoff) aversion to the 'stifling urbanity' of the park above. Treib, 1995.

below. That the brownfield park had an influence on this development is logical. Confronted by the visual 'density' of built elements of the brownfield site, the representation of nature through symbols and metaphors is a major challenge. Generating an experience of nature via the haptic however, augments the visual and sets up an alternative elaboration of nature. Moreover, as in the Jardin des Bambous, the position beneath the surface of the site exposes its topography - and memory - along with the smell and sounds of the earth itself. This act engages the thinking body of the walker by linking bodily experience to topographical strata and site history, revealing to the park visitor the forces and processes at work in the shaping of the territory.

TOC

# 7 Case Landschaftspark Duisburg-Nord

## 7.1 Introduction

Landschaftspark Duisburg-Nord lies in Germany's Ruhr area some five kilometres north of the Duisburg city centre [Figure 7.1]. Its designation came about as part of the *Internationale Bauaustelling (IBA) Emscher Park* initiative, launched in 1989 to revitalise the Ruhr conurbation by transforming post-industrial territories along the Emscher River. This initiative included more than 120 major projects spread over an area of 300 square kilometres. One of the first initiatieves of the IBA was the 230 hectare Duisburg-Nord site, made up of an assortment of defunct industrial structures and derelict landscapes, including the immense Thyssen steelworks, a mine-shaft site, slag heaps, railway lines and ruderal vegetation areas.
The Steelworks site was considered an important 'stepping-stone' in the Emscher Park initiative, and a project to convert it to a public park was put forward as one of the first projects of the IBA. In 1990, a design competition was launched, in which five pre-selected teams were invited to submit proposals: Bernard Lassus et Associés from Paris, Cass associates from Liverpool, Boyer/Hoff/Reinders from Duisburg, Brandenfels from Münster and Latz + Partners from Freizing. Teams were required to involve various disciplines such as architects, geologists, ecologists, sociologists and engineers and were commit themselves to a half-year process of research, design and consultation with citizens' groups. After a lengthy process, a team led by landscape architects Peter and Annaliese Latz was awarded the design commission for the project. Their proposal for the transformation of this aberrant territory into a public park was realised in phases between 1989 and 2002 [Figure 7.2].

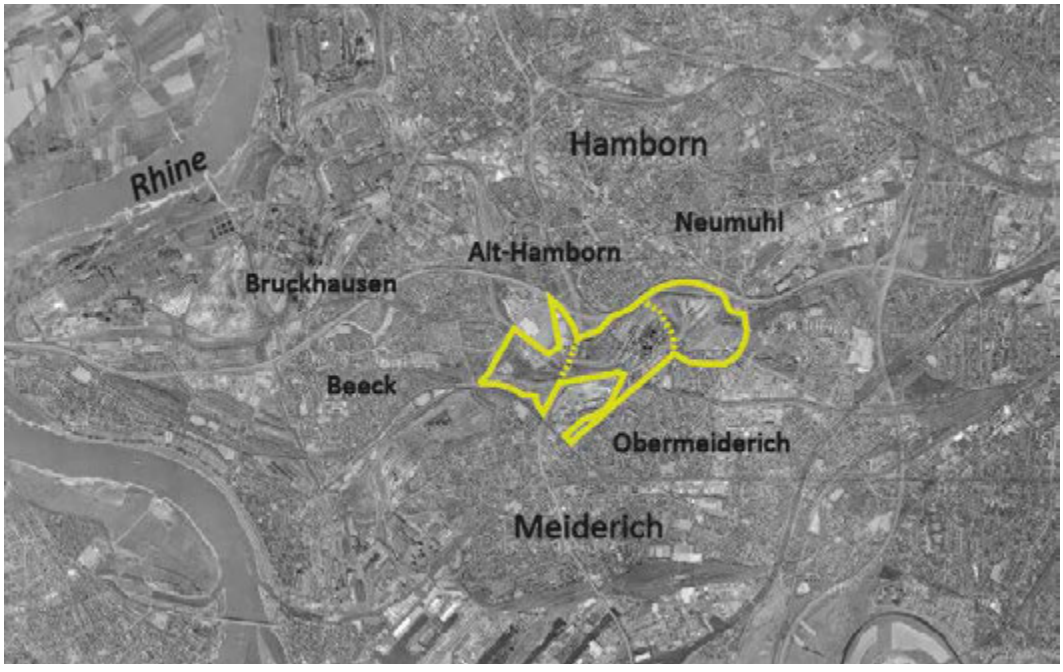



FIGURE 7.1 Landschaftspark Duisburg-Nord in the western Ruhr conurbation. (Base photo: Google Earth).



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FIGURE 7.2 Rail harp Landschaftspark Duisburg-Nord, 2017. (Photo: Dick Sijtsma).

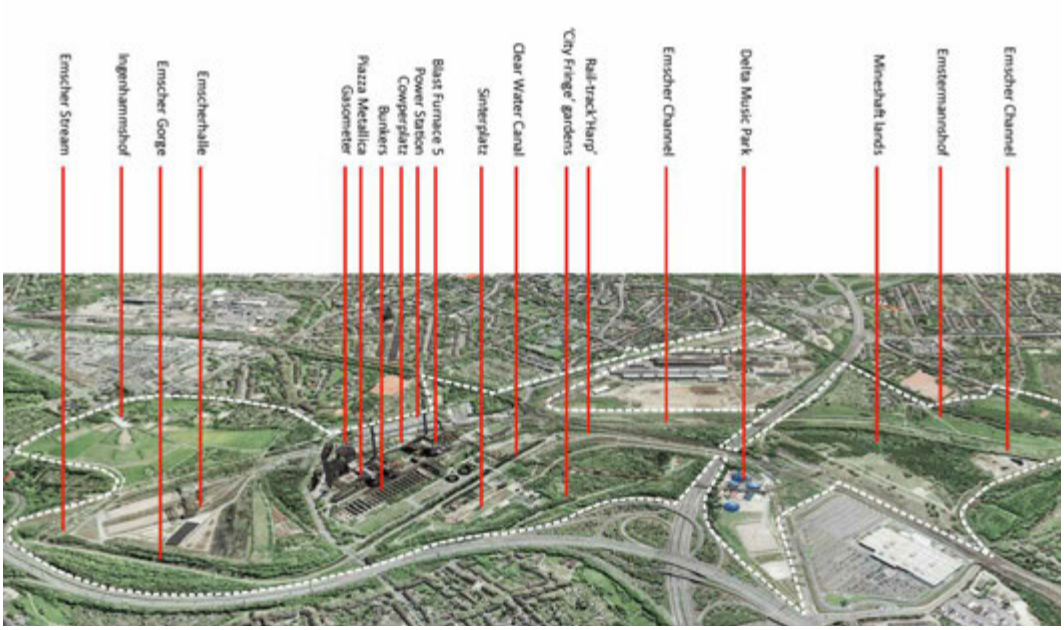



FIGURE 7.3 Overview key features Landschaftspark Duisburg-Nord. (Base photo: Google Earth).

The various sections of the park include cafés, events venues, lookouts, adventure courses, rock-climbing areas, scuba-dive tank, playing fields, theme gardens, water features, allotment gardens, amphitheatres and a children's farm. Large areas of the park are also designed for exploring and rambling through woodland and derelict industrial land, while open areas of the former steelworks complex are used for impromptu and organized events [Figure 7.3].

## 7.2 Landscape Context and Historical Development of Park Site

Landschaftspark Duisburg-Nord lies in the administrative boundaries of the City of Duisburg, in the western part of the Ruhr area. With a population of 8,5 million people, the Ruhr conurbation consists of several large, industrial cities bordered by the rivers Ruhr to the south, Rhine to the west, and Lippe to the north. It forms in turn part of the larger Rhine-Ruhr metropolitan region, populated by more than 12 million people. Geographically speaking, Landschaftspark Duisburg-Nord lies in the Emscher zone, where the Lower Rhine Basin forms a 20-25 kilometres wide zone of the Rhine and its flood plains [Figure 7.4]. This zone, which includes the old stream valley of the Emscher cutting through the Westphalian Basin, forms one of three characteristic landscapes in the Ruhr area; the others being the Ruhr zone proper in the hills of the Rhenisch Massif (with its characteristic mines and settlements), and the *Helweg* zone of fertile *Loess* soil landscapes on the flanks of the Rhenisch Massif.[232] These landscapes are the the product of a mosaic of geomorphological formations - the Rhenisch Massif, the Westphalian Basin and the Lower Rhine Basin, which shape the topography, hydrology and podology of the region and inform the patterns and systems of cultivation and settlement in the pre-modern period.

### 7.2.1 1500-1840

Until the Middle Ages, the Emscher zone was regularly inundated by floodwaters and the riverbed was continually changing its path, a process replicated along the river on a smaller scale, resulting in a dynamic landscape of swampy grasslands and moorlands, populated by a small agricultural communities who grazed cattle and sheep on the moors. With only a few small hamlets connected by a small number of roads, the Emscher zone was the most sparsely populated area of the Ruhr region until the modern period. These hamlets were connected by a small number of north-south oriented roads crossing the river at strategic points, one of which forms the now eastern border of the park. Prior to the advent of coal-mining and steel-making in the Emscher zone, the landscape context of the park was characterized by a highly meandering watercourse in a wide zone of wetlands and moorlands [Figure 7.5]. Beyond this zone, a mixture of moorlands, grasslands and small woodland parcels was interspersed with farmhouses, hamlets, estates and cloisters on a lightly undulating terrain. Coal-mining and steel-making began to transform the area on a large scale from the end of the seventeenth century and by the end of the eighteenth century the population of the Ruhr region had reached 1.5 million, swelling the size of existing towns and cites and spawning hamlets such as Hamborn, Neumuhl and Meiderich around the park site. By the mid 1840s urbanization as a result of industrialization was clearly visible around the site, with a new network of roads connecting settlements north and south of the river.
In this period two new road connections were realised: the present-day Emscherstrasse connecting to the hamlet of Hamborn on the northern bank of the river, and the Honigstrasse which forms the western limits of the present-day park. The settlement of Hamborn focussed around a mill in the river and oriented east-west along a road running parallel to the river. This road forms the present-day Wittfelderstrasse, a segment of which still runs through the park.

232 Langner, 2011.

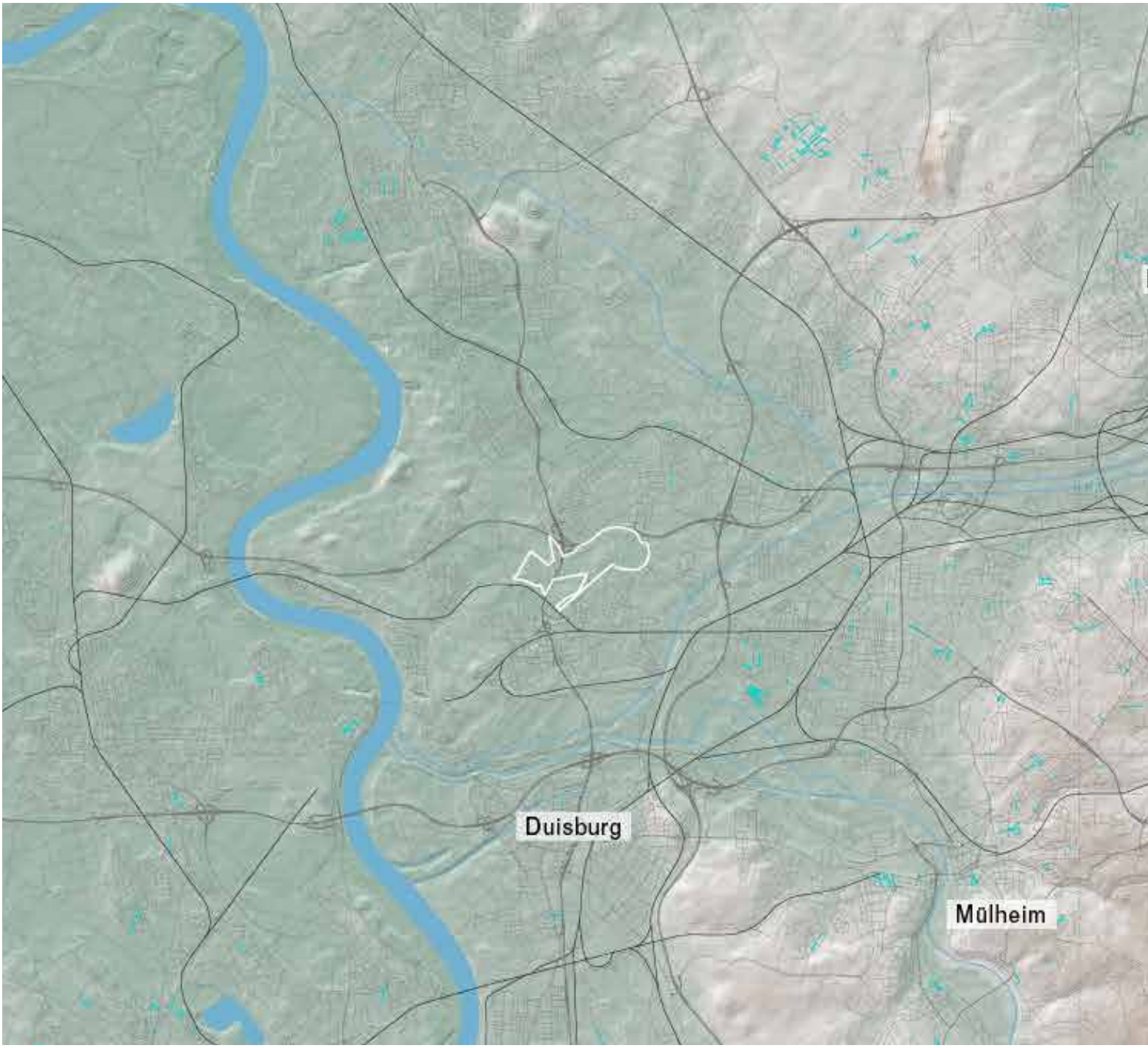



FIGURE 7.4 Park site in relation to the natural and urban landscape of the Western Ruhr region. (Image: Jan Wilbers).


Gladbeck
Bottrop
Herne
Gelsenkirchen
Bochum
Essen
Hattingen



FIGURE 7.5 Development of morphology site and context, 1500- 1840. (Drawing: Jan Wilbers).



FIGURE 7.6 Development of morphology site and context, 1840- 1930. (Drawing: Jan Wilbers).

## 7.2.2 1840-1930

Toward the end of the nineteenth century the site underwent its first industrial development, with the sinking of a mine-shaft for the Deutscher Kaiser coalfields on the north bank of the river. This was followed shortly after by the erection of a coking plant just south of the mine, and a blast furnace plant and foundry on the south bank in 1905 by the Thyssen company. By 1908 five blast furnaces were in operation. The mine steelworks were connected by the newly-built Emscher Valley railway line and the Meiderich line, which formed a physical boundary between residential areas and industrial complexes. No lines were built along the north bank of the river however, so that the town of Hamborn still lay in open connection to the river. Both of these settlements expanded rapidly in the early part of the twentieth century, with the town of Meiderich extending right up to the site boundaries in the south and Hamborn extending to the east and west along the river, forming the suburbs of Neumuhl and Buschhausen [Figure 7.6]. The location of the growing number industrial complexes along the Emscher bore little relationship to the natural or cultural landscape form of the territory, but to the configuration of geological deposits far beneath the surface. Coalmines sprang up above coal seams, with steelworks erected in close proximity to them. Together with other mines and steelworks upstream and downstream, large areas of the river zone were gradually transformed into industrial sites connected to each other by an ever-growing network of rail lines. Between 1846 and 1950 a vast network of rail lines extended across the entire region.

The river itself was also completely transformed in this period. Mine works caused considerable subsidence of the ground and together with increased run-off from urban areas lead to the canalization of river in long straight reaches. This not only resolved flooding problems but also lead to a more efficient use of land: the coking plant now extended right down to the banks of the canal which was also aligned to the geometry of the complex. The most effective flood management strategy however, was the excavation of a complete diversion of the river upstream from the coking plant. Between 1909 and 1914, the Rhine-Herne canal further diverted the watercourse towards the Duisburg harbour. The small, canalized stream left flowing through the site became know as the Alter (old) Emscher, serving mainly as a drainage canal, which became highly polluted by effluent from the plant and surrounding neighbourhoods.



FIGURE 7.7 Development of the morphology of the site, 1930-1980. (Drawing: Jan Wilbers).



FIGURE 7.8 Development of morphology site and context, 1980-1990. (Drawing: Jan Wilbers).

### 7.2.3 1930-1980

The network of rail lines progressively extended throughout the Ruhr area until the 1960s, each line adding to an increasingly finer network of rail beds, embankments, bridges and stations criss-crossing the region. This network determined not only the geographic schema of industrial production, but also increasingly the form of urbanization, with settlements growing rapidly along these lines and centres emerged in the vicinity of stations. On the Duisburg-Nord site, new lines were built to service the coking plant, while others crossed the site as part of the larger network [Figure 7.7]. Many of the rail beds were raised considerably off the ground, forming major landforms through the site. In the post-war period, a major upgrading of the road network took place, the most important changes being the introduction of motorways. Two major motorways were built: the 'Nord-Zud Strasse' (now A59) crossing the river from north to south between the coalmine and the steelworks, and the 'Emscherschnellweg' (now A42) crossing from west to east along the edge of the suburb of Hamborn. A highway interchange was built where these two motorways intersected – the present-day Kreuz Duisburg-Nord. The A42 cut off the open connection of Hamborn to the north bank of the river, while the A59 effectively split the site in two. The A42 motorway was later upgraded and raised on embankments five to ten metres above ground level and planted out with screening vegetation. In 1959 the mine shafts were closed down and the mine site cleared but the coking plant continued operation until 1977. From the late 1970s onwards, a combination of economic crisis, rising oil prices, falling steel prices, and increasing costs of mining coal deposits, lead to the steady abandonment of coal-mining and steelworks operations in the Ruhr region. Unemployment rose dramatically and the environmental contamination caused by heavy industry became an increasing problem.

### 7.2.4 1980-1990

The Thyssen steelworks, which produced around 37 million tonnes of pig iron in its working life, finally closed in 1985, leaving behind a collection of blast furnaces, foundries, power stations, ore bunkers, turbines, machine halls, gas tanks, storage areas, workshops, cooling towers, sewerage facilities, railways



FIGURE 7.9 Thyssen steelworks site, 1985. (Photo: European Garden Heritage Network).



FIGURE 7.10 Mosaic of land-uses Duisburg-Nord site, 1990. (Drawing: Jan Wilbers & Author).

and roads [Figure 7.8]. Demolishing the steelworks was ruled out at an early stage as too costly. Meanwhile, the German society for Industrial Archaeology had become interested in preserving the complex, and climbing enthusiasts and scuba divers had also discovered the value of the complex as an extreme sports venue [Figure 7.9]. The interest in the site by conservationists and recreationists coincided with the establishment of the *Internationale Bauaustellung Emscher Park* (International Building Exposition Emscher Park - IBA) in 1989 by the State Government of Nordrhein-Westphalia. This initiative revised the scope of the building exhibition by focussing on housing reform, urban development and urban renewal instead of architecture. Over the course of a ten-year period, the Emscher Park initiative was to catalyze the ecological, economic, and urban revitalization of the Ruhr Valley and the Emscher River. Two primary objectives of the IBA were

to generate a greener image for the region and breathe new life into derelict industrial sites and included more than 120 major projects ranging from parks and revitalized waterways to housing developments, business parks and research centres spread over an area of more than 300 square kilometres. The site designated as park for the competition was an S-shaped area of land roughly three kilometres long and varying in width from 500 to 1000 metres. No less than nine different land use areas were indicated in the briefing drawings, including vegetated noise barriers, the former steelworks complex, industrial wasteland, housing areas, grasslands, farmland, shunting yards, workshops and parklands [Figure 7.10]. These areas were not only highly diverse, they were also separated from each other by rail lines, roads or the canalized Alte Emscher river. Similarly, the boundaries of the site were determined almost exclusively by infrastructural barriers, with the site accessible from a limited number of points.

## 7.3 Design Approach & Project Reception

Of the many possible terms to introduce the scheme by the Latz team, 'layered' perhaps best portrays its multiplicity and complexity. Significantly, the term layered is also synonymous with the La Villette scheme, but the attention the project attracted in professional and academic circles may in a large part be put down to the alternative iteration of the notion of layering at Duisburg-Nord. Weilacher (2008) announced that if Parc de la Villette was the French prototype of the 21st century park, the scheme for Duisburg-Nord must surely represent the German prototype. Treib (2016) notes that the project has become a landmark work, a model for resurrecting a productive site, and a prototype approach. That the different 'layers' of the project could also be understood thematically contributed to its recognition as being novel and innovative. Tate (2015) summarized what he considered the most popular notions emerging in the discourse: "process-based", "decomposition-driven", "place-driven" and "pragmatic".[233] Building on this catalogue, a more in-depth elaboration of the themes central to the Latz team scheme - and resonating through into the discourse on the project – can be arranged into six major headings: site; experience, semantic multiplicity, conceptions of nature, natural systems and processes, and designing for social interaction. An additional and critical aspect relevant for our discussion of the design approach and the scheme's reception is the context of the project within the IBA Emscher Park initiative.

### 7.3.1 Site

A central thematic in the project has been the design team's novel translation of the site. Latz' winning proposal focused on the reinterpretation of the steelworks complex and the industrial landscape surrounding it: a mosaic of derelict structures and surfaces, the rail lines, slag heaps, shunting yards and canals, including the flora and fauna which had spontaneously appeared [Figure 7.11]. Latz (2001) stated that "the task of dealing with rundown industrial areas and open-cut mines require a new method that accepts their physical qualities, also their destroyed nature and topography. This new vision should not be one of 're-cultivation' for this approach negates the qualities they posses and

233 Tate, 2015, p. 205.




FIGURE 7.11 Competition submission drawing 1991: Ein Geflecht industrieller Strukturen wird Landschaft [A Weave of Industrial Structures becomes Landscape].. A Weave of Industrial Structures becomes Landscape. (Image source: Latz+Partner, Landschafsarchitekten).

destroys them for a second time."[234] The plan itself developed through an in-depth analysis of the site examining the intricate workings of the industrial landscape 'machinery', a technique denoted by the Latz team as 'site syntax'.[235] In the mode of translation, the team 'recoded' the patterns and processes emerging from the site syntax into four separate park layers: the 'water park' made up of the re-purposed canals, treatment areas and settling basins; the 'rail park', consisting of access and circulation routes on the former rail line embankments; the 'promenade park' where park-goers could stroll over converted roads and bridges; and the 'fields and gardens' layer of recreation areas, and space for flora & fauna. These layers were then superimposed over each other in much the same way as the La Villette scheme [Figure 7.12].

Chairwoman Donata Valentien remarked on how the jury arrived at their choice for the plan: "The Latz proposal had been commended from the outset for its solid, sound individual contributions on water, energy, vegetation. It was not possible to enthuse immediately, the penuriousness of the presentation inhibited emotional ardour, and the splintering into a number of strata made for laborious access. But slowly, led carefully forward, mosaic stones, lines and ideas fitting together, and we started piecemeal to discover this work's quality. A process that showed surprising analogies with discovering the

234 Latz, 2001, p. 270.

235 Latz in Rosenberg, 2009.



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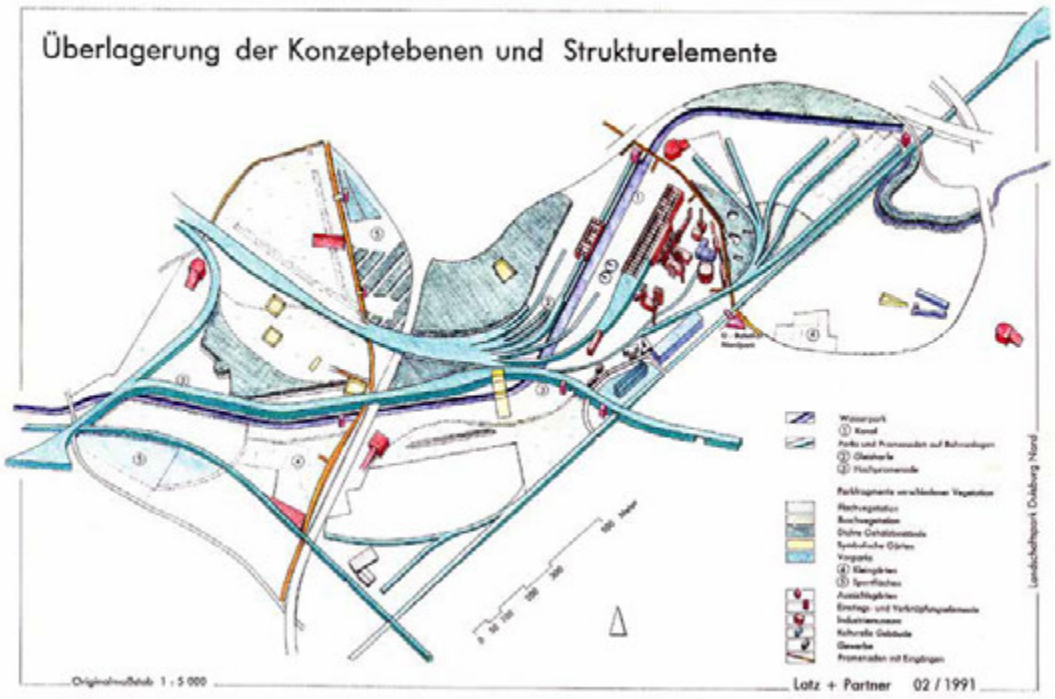



FIGURE 7.12 Competition submission drawing 1991: Uberlagerung der Konzeptebenen und Strukturelementen. [Overlay of Concept Layer & Structuring Elements]. (Image source: Latz+Partner, Landschafsarchitekten).

place."[236] In her discussion on the emerging understandings of place, Berrizbeitia (2007) specifically referenced the Duisburg-Nord scheme in contending that the notion of site-specificity had emerged as a more productive model than the notion of place to address issues of site and its perception.[237] Similarly, Diedrich (2013) was motivated in her work on design approaches in European harbour transformations by the site-specific approach used at Duisburg-Nord. Rosenberg (2009) contended that the design was based on an analytic approach that investigates how the various industrial components functioned, and what impact this had on the shape of the land. Tate (2015) noted the similarities of the syntax approach with the layering technique at Parc de la Villette, but suggested that Duisburg-Nord also differed markedly from the Paris scheme (without elaborating on how). De Jong et. al. (2008) does suggest how however, observing how the drawings as "a voyage of discovery into the beauty of the ugly, the utility of the apparently useless, and the recreational qualities of a heavily polluted site"[238]. Weilacher (2008) notes that with this approach Latz avoided an overall plan as he was doubtful it would be able to reflect the complexity of the landscape accurately. And in respect to the discussion of the ecdysis of landscape architecture as compositional praxis, Rosenberg (2009) makes an important observation by noting the absence of a "unitary composition" in the scheme.[239]

236 Valentien, 1991, p. 25.

237 Berrizbeitia, 2007.

238 De Jong, 2008, p. 140.

239 Rosenberg, 2009, p. 213.

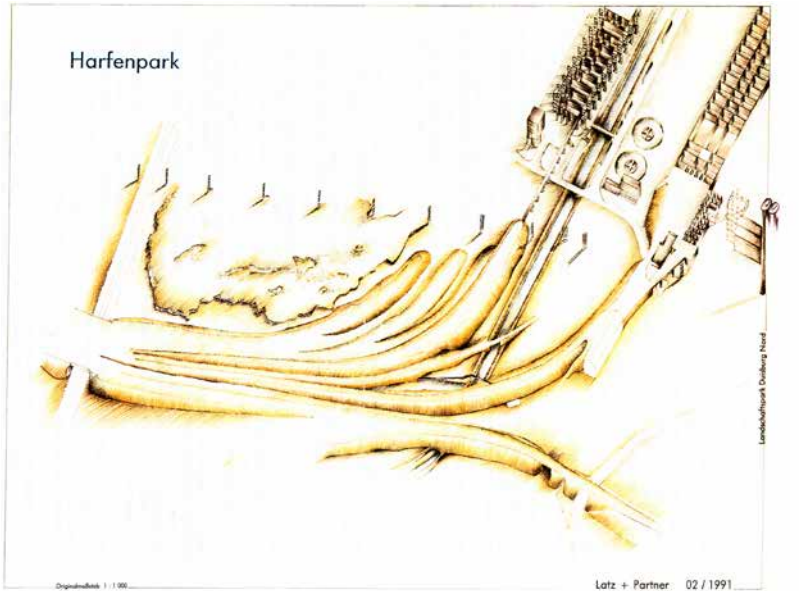



FIGURE 7.13 Competition submission drawing 1991: Reliefharfe. [Rail harp]. (Image source: Latz+Partner, Landschafsarchitekten).

### 7.3.2 Experience

Particularly novel in the syntax approach was the role the network of converted rail lines played in enabling a traversing of the territory. Through their in-depth analysis of the industrial landscape, the Latz team revealed "the undulations of the railway embankments, a hundred-year old feat of engineering, appearing like a gigantic piece of land-art".[240] The team went on to designate the railway 'harp' as the infrastructure for a style of movement in the park akin to shunting trains: high above ground level, sunken beneath it in tunnels, or ramping between levels [Figure 7.13].[241] The promenade layer was conceived in a similar way, making use of roads and bridges to emulate the stratified system of conveyances of industrial complexes. In her discussion of the idiosyncrasies of the project, Rosenberg (2009) noted in these features a "synchronic experience of vertically stacked systems" but with a "curious absence of an unfolding narrative"; she went on however, to postulate that the synchronic might also be a way to "populate this landscape, and suggest an alternate reading of its vastness."[242] Rosenberg also keenly observed that bodily experience was a distinctive characteristic of the project, noting "the overpowering image of the ironworks perceived from afar, and all that it suggests as an icon of sublime immensity, is challenged at the moment we engage it physically".[243]

240 Latz, 2016, p. 45.

241 Latz, 1993.

242 Rosenberg, 2009, p. 215.

243 Rosenberg, 2009, p. 220.

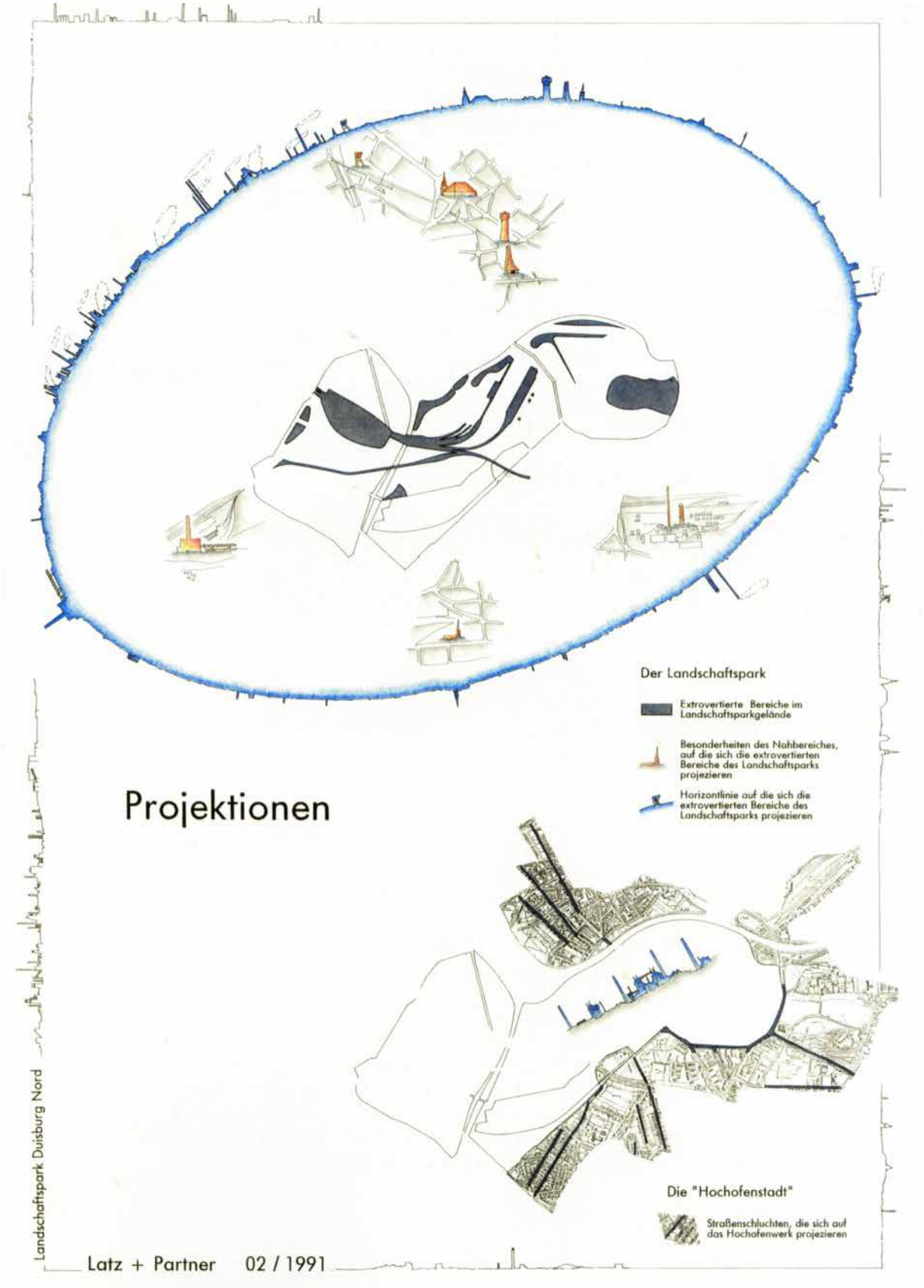



FIGURE 7.14 Competition submission drawing 1991: Projectionen. [Projections]. (Image source: Latz+Partner, Landschafsarchitekten).



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Related to this topic is the question of the embedding of the park in its urban and landscape context. Latz pointed out the relative autonomy of the derelict rail infrastructure across the larger metropolitan area, and its potential as a new path system to connect to areas beyond the site.[244] On a larger scale, the scheme was to also form part of the larger network of the Emscher park system. This is addressed in the plan with defunct railway corridors forming an organizational spine running from east to west and connecting to adjacent parks.

Furthermore, the residue of industrial activity in the river valley was not only limited to a re-drawing of the 'ground' of the site, but also involved the literal addition of landform. Rail infrastructure, storage facilities and tailings heaps, together with later additions of sound barriers and vegetated walls, left an amorphous configuration of new topography raised many metres above the original ground level. This mosaic of plateaus, embankments and raised thoroughfares play a specific role in the spatial form of the scheme. Views of the horizon of the Ruhr area to be had from vantage points in this elevated landscape, while views to landmarks in the immediate surroundings form a critical aspect of the desgin vision. The spatiality of the plateau landscape was poetically illustrated in a plan diagram of the site with nearby landmarks and horizon profiles drawn as (reverse) depictions of medieval citadels [Figure 7.14]. In reading this relationship Latz stated that surrounding urban spaces "...are as dependant on this installation as an Alpine village is on having mountains in the background".[245]

### 7.3.3 Semantic Multiplicity

While the syntax approach was devised as a particular way of drawing out of the character of the site as industrial machine, the team at the same paradoxically professed no interest in retaining the identity of the complex as such. Latz (1993) notes how stories and mythology served as a methodology. "For Duisburg-North Landscape Park I began by writing stories. Stories about a falcon circling a mountain. And it gradually became clear to me what I would do with the blast furnaces."[246] In other writings he likened the site to a city – "complete with entrance gates, squares and large buildings."[247] That the story of the industrial complex was being 're-told' into alternative narratives and tropes was also picked up on in the literature. Berrizbeitia (2007) observes that "machines and storage spaces are colonized in creative ways to accommodate new programs and social activities, giving the impression that the park is a place of multiple identities, from the industrial sublime to the bucolic pastoral, to an intensely programmed active sports ground".[248] Rosenberg (2009) similarly notes that the decayed forms were not treated as romanticized ruins, nor as a spectacle meant to convey a sublime experience.[249] This multiplicity of identities suggests an attention in the scheme to the ambiguity of meanings of physical environments, as compared to a singular and projective approach to the

244 Latz, 1993.

245 Latz in Knuijt et. al., p. 97.

246 Latz in Weilacher, 1996; p. 126.

247 Latz, 1993, p. 95.

248 Berrizbeitia, 2009, p. 183.

249 Rosenberg, 2009.

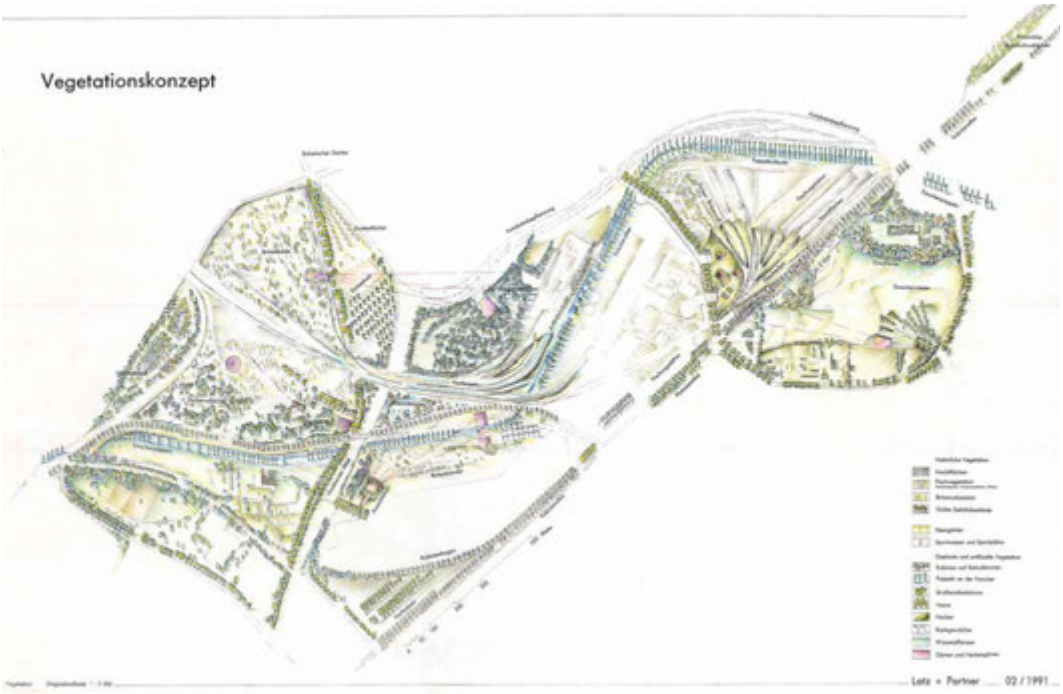



FIGURE 7.15 Competition submission drawing 1991: Vegetationskonzept. [Vegetation Concept]. Image source: Latz+Partner, Landschafsarchitekten).

appearance of park features, a pattern noted also at La Villette. The ambiguity of imagery also extends to the (conventional) identity of a park as a semantic world distinct to the urban realm.

The multiplicity of appearances in the scheme is also related to the handling of history in the project. Latz (1993) states that the design team intended to give a new meaning to the term 'historical park' as "something that starts now but goes forward as well as backward."[250] Reflecting on the intentions behind the designers choice not to 'correct' this monstrous (and historically problematic) industrial site, Keulartz (2015) argues that the scheme engages with a mix of approaches to the industrial history of the site including museification, monumentality and criticality.[251] Berrizbeitia (2007) underlines this claim by proposing that the scheme explores both a retrospective and projective attitude to place by juxtaposing the industrial history of the site with its reincarnation as urban park.[252]

### 7.3.4 Conceptions of Nature

A related aspect that received critical attention is the representation and articulation of nature in the project. In retaining much of the industrial landscape of the site, the project team ostensibly

250 Latz, in Knuijt et. al, 1993, p. 95.

251 Keulartz, 2015.

252 Berrizbeitia, 2007.

created a man-made environment far removed from the natural world [Figure 7.15]. Latz alludes to the intentions behind this approach by contending that nature has been irreversibly disturbed by man, and that nature and man are thus perpetually linked.[253] At the same time however, nature retained an all-pervasive presence in the project. The scheme consequently triggered discussion about the concept of nature, and in relation to contemporary landscape design, as compared to the concepts underlying nineteenth-century and twentieth-century parks. After describing in detail the volunteer vegetation, ruderal plant communities and successional forests around the complex, Tate (2015) concluded that the park was "a symbol of the grip of nature being re-established after the grip of industry has been relaxed".[254] Hargreaves (2007) however, remarked on what he saw as the anomalous inclusion of cultivated landscapes, tree bosques, hedges and parterres among the ore-processing plan.[255] In respect to these features, Rosenberg (2009) highlights their contrast with the industrial setting, remarking on the differing semantic messages they portrayed, with plantings expressing local vernacular traditions and gentrified schemas, plots experimenting with the unfamiliar material of the site, and gardens celebrated the beauty of volunteer plants on toxic plots.

### 7.3.5 Natural Systems & Processes

A theme extending from the tropes of nature in the park is the subject of natural systems and processes. The ecological improvement of the watercourse running through the site was an important objective of the scheme, giving substance to the IBA objectives to improve the entire water system of the Emscher [Figure 7.16 & Figure 7.17]. The reclamation of the Emscher was led by the Emscher Corporation, who envisaged the incremental restoration of the Emscher, starting with the park itself. In the Latz plan, this restoration was closely aligned to the concept of 'site syntax': "One of the most important ways of rejuvenating this region would be to have fresh, clean water everywhere. What we do not want to do is to recreate the landscape by letting it revert to nature, by using natural forms and also leaving some of it fairly polluted. Quite the opposite, our intention is to reinterpret existing forms and in five or six years' time have only clean water in the canal."[256] On this topic, Rosenberg (2009) remarked that the syntax approach focussed not only on the forms that facilitated (industrial) production, but also on the industrial processes themselves. Tate (2001) concluded that in contrast to Parc de la Villette, Duisburg-Nord positioned nature, its processes, and man's intervention in them centrally in the project.[257]

Resonating with the compound elaborations of nature noted in the former section, the project thereby engages a central thematic of landscape design that distinguishes it from the static built object: the dynamics and interconnectedness of processes such as vegetative succession and hydrology, and the mandate to work with them at different scales. In this modus, the park typology as artefact is challenged head-on, posing the question: at what point does the project cease to be a stable architectonic entity and become a dynamic, evolving system?

253 Latz, 2000.

254 Tate, 2005, p. 205.

255 Hargreaves, 2007.

256 Latz in Knuijt et. al., p. 93.

257 Tate, 2001.

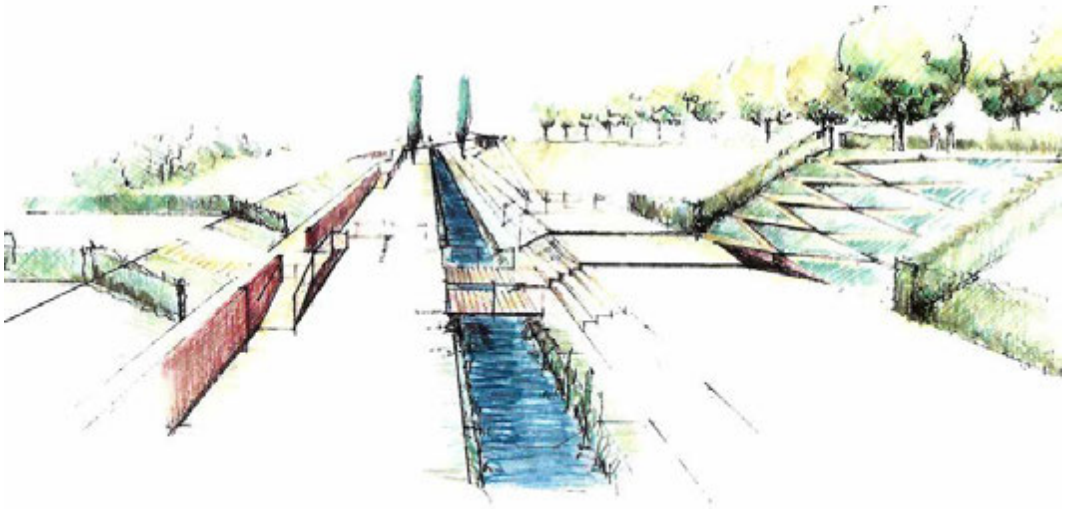


FIGURE 7.16 Competition submission drawing 1991: Emscherschluct. [Emscher Ditch]. (Image source: Latz+Partner, Landschafsarchitekten).

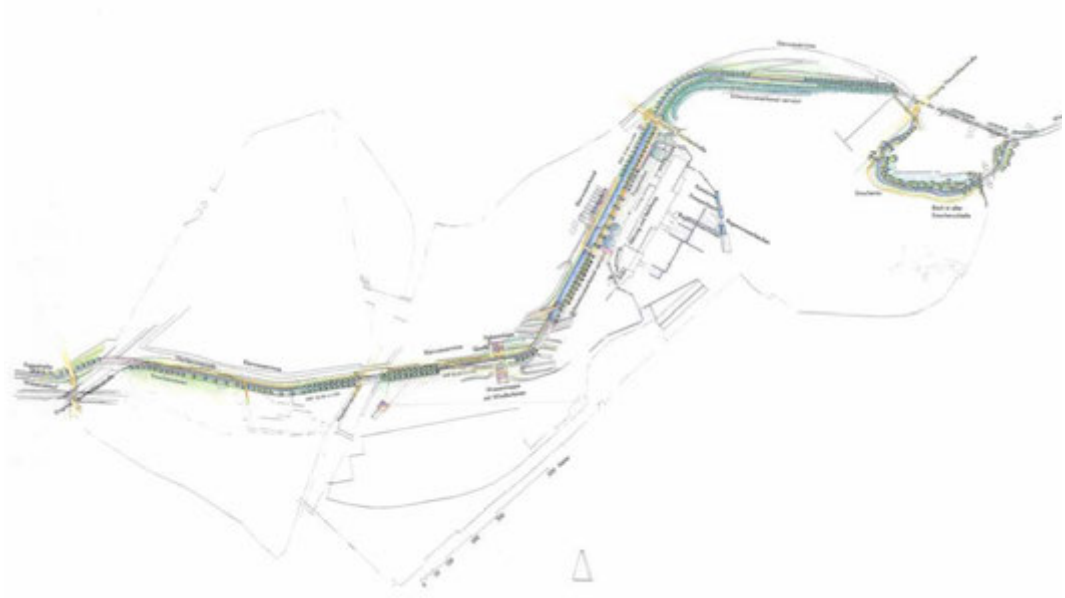


FIGURE 7.17 Competition submission drawing 1991: Wasserpark, Water Park. (Image source: Latz+Partner, Landschafsarchitekten).



FIGURE 7.18 Event Space Piazza Metallica 2001. (Photo: Latz+Partner, Landschafsarchitekten).

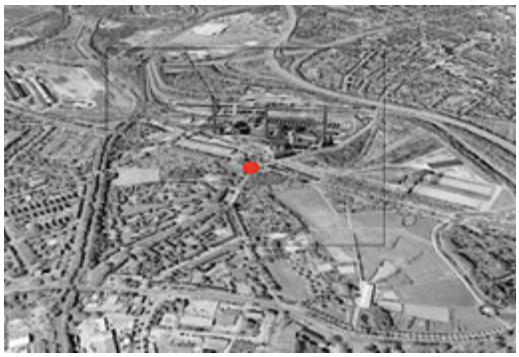
### 7.3.6 Designing for Social Interaction

Berritzbeitia's contention that the site is colonized in creative ways to accommodate new programs and social activities, tables a last important theme emerging from the approach and reception of the scheme: the 'social design' dimensions of park design. Latz announced that the premise for the urban park of the 21st century was different to that of the Volkspark of the 20th century, in which park users were seen as a collective: "nowadays everyone goes alone: the dog owner, the diver, the cyclist. There is no such thing as a park for all".[258] The transformation of the complex into social spaces was subsequently the focus of critical attention, with the range of new activities raised in commentaries describing its success as a public park. Rosenberg (2009) discussed the social metamorphosis of the complex, contending that the scheme was less about a restoration of a ruined environment and more about making the site meaningful through its transformation into social space(s). In substantiating her view, Rosenberg proffers the gardens at Duisburg-Nord as figurative approach and method, noting that regeneration begins by cleansing the site's polluted water and toxic soil, but is ultimately made meaningful by "taming this alienating landscape so that it might become used and lived in new ways: metamorphosed into a new public landscape".[259] A further aspect in the social dimension of the project is the approach to informal activity. Rosenberg (2009) reiterates the phenomena of colonization observed by Berrizbeitia, "This alienated—and alienating—behemoth becomes the new urban ground for casual rhythms of encounter, dissolving boundaries both physical and psychological, between the space of domesticity and production" [Figure 7.18].[260]

258 Latz in Diedrich, 1999, p. 74.

259 Rosenberg, 2009, p. 212.

260 Ibid, p. 219.



a *Location 1 (Base Image: Google Earth)*



b *Park entrance Emscherstrasse (Photo: Author)*

FIGURE 7.19



a *Location 2. (Base Image: Google Earth)*

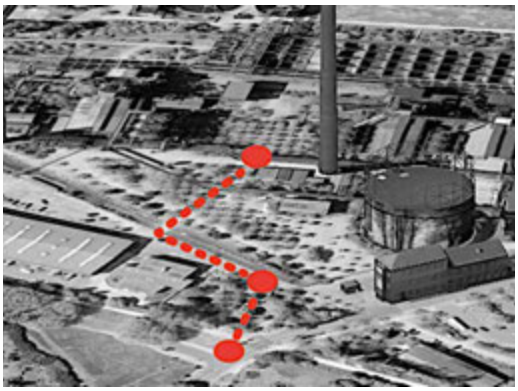


b *Entrance area from visitors centre (Photo: Author)*

FIGURE 7.20

## 7.4 Descriptive Site Observations

We continue with the descriptive analysis, taking an walking tour of key areas of the park. The tour was made on a warm September day in 2013, between 10am in the morning and 12 noon. Finding where the park begins is our first challenge. A bewildering patchwork of motorways, neighbourhoods, allotment gardens, sports grounds and industrial areas surround the project, making it unclear which areas are part of the park and which are not. The park can only be accessed from specified points around its perimeter: street entrances, underpasses, or from regional foot and cycle-ways. The most commonly-used (and official) entrance to the park is at the former entry of the steelworks on the Emscherstrasse. Signs and flags signal we are near, with parking areas signposted left and right. The entrance is planted with a grove of trees, behind which the towers of the blast furnace complex loom [Figure 7.19].
Passing under the tree canopy we find ourselves in a large elongated space edged by a towering bulk of blast furnaces, casting plants, storehouses, and other assorted structures [Figure 7.20]. The space is paved in gravel and crossed diagonally by rail lines: a solitary coal carriage still standing on the tracks seems about to be shunted away. With its characteristic patina of utility and functionality, the complex appears to be still working, as if temporarily shut down for maitenance. The sign near the entrance however, shows the new function of many structures: the control room is for instance now a visitors centre, the power station a venue for concerts and events, the Gasometer a scuba diving tank and the blower house, pump house and compressor room now used for corporate functions. The gridded plantings of trees across



a *Location 3. (Base Image: Google Earth).*



b *Cowperplatz (Photo: Author).*

FIGURE 7.21



FIGURE 7.22 Blast furnace 5 from Cowperplatz. (Photo: Author).



FIGURE 7.23 Blast furnace 5, first floor level. (Photo: Author).

the space lend the space an rural quality, not that of a working industrial complex. Groups of people are seated on benches under the trees or drinking coffee on tables near the visitors centre. Scuba divers lugging heavy equipment move towards the gasometer and stop near a lift, which hoists the gear to a platform near the top of the tank. They climb a set of stairs to the platform and disappear inside. Crossing the rail lines, we move towards the blast furnaces under a gridded canopy of trees, crossing a street-like space - the Giesshallenstrasse - before moving down a ramp to enter the Cowperplatz, an open space surrounded by the towering structures of the blast furnace [Figure 7.21]. The scale of the space could pass for an urban plaza, as does its use: elderly people play jeu-de-boule in one corner while other visitors rest on benches in the spring sunshine. As opposed to urban buildings though, the structures don't have flat facades but are constellations of pipes, bunkers, gantries and walkways towering above us. There is a sense of trepidation in the air, likely brought on by the fact that these enviroments are usually off-limits to everyone other than workers. Parts of the structure are also raised up from the ground revealing dark, subterranean spaces fenced off with rusting mesh. Peering into the gloom we can see a scattering of ferns on the ground fed by dripping water. Beyond them we can make out a bright green splash of vegetation in an open void.

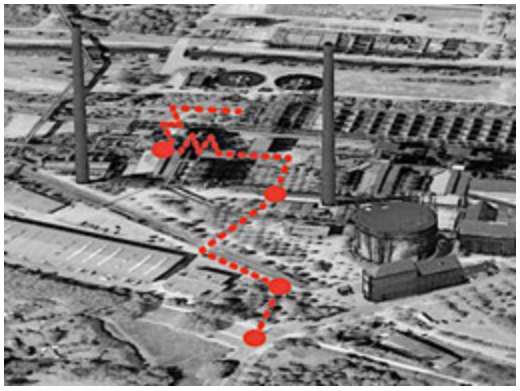
A stairway drops to the ground from the blast furnace complex, which people can be seen climbing, so we follow them up [Figure 7.22] Ten metres up we find ourselves on a metal deck that extends under the base of the furnace tower [Figure 7.23]. Narrow makeshift steel stairways snake through the complex, most of them closed off. One however, is open and leads in long, steep sweeps up around the blast furnace. At each landing vistas open in another direction, gradually revealing the complex below us, and the landscape around and beyond it. With each step we emerge out of the ominous ground-level environment, an experience not unlike climbing a steep hill from a forested valley.



FIGURE 7.24 View south-west from top of Blast furnace 5. (Photo: Author).



FIGURE 7.25 View south-west from top of Blast furnace 5. (Photo: Author).



a *Location 5. (Base Image: Google Earth).*



b *Bunker roof entrance area. (Photo: Author).*

FIGURE 7.26

The stairway ends at a platform eighty metres above ground. Far below us to the south-west, a savannah-like open woodland with copses of trees and shrubs interspersed with open grassy areas stretches to the horizon [Figure 7.24]. In the middle distance a vast snaking band of traffic creeps silently along a freeway and a giant furniture warehouse squats amongst the green. Industrial complexes dot the horizon at regular intervals, many resembling the outline of this complex. To the north-west the savannah-like landscape merges into a continuous canopy of trees punctuated by an occasional church spire and water tower, suggesting a leafy suburban environment beneath [Figure 7.25]. Between this landscape and the open rectangular field below, busy lanes of motorway traffic can be seen through a gap in the trees. In the foreground small groups of people can be seen walking and cycling over a network of rail lines and paths.

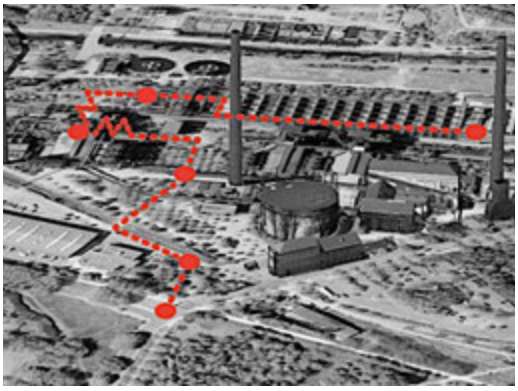
A vast mesh of concrete walls open to the sky can be seen immediately below us - the ore bunker complex. This colossal feature seems to divide the park in two. How have people passed from the Cowperplatz to the park spaces beyond? We can just make out people walking along a gantry deck over the structure, peering down into the gaping openings of the bunker. We descend the stairs back to the blast furnace base platform and instead of continuing back down to the Cowperplatz exit onto an embankment adjoining the top of the ore bunker complex. This embankment - the footing of an old train line that bore ore carriages onto the roof of the bunker - sweeps in a gentle arc out to the west. Drawn by the intriguing sight of trees jutting up above the bunker we head towards a narrow path over the bunker complex. Above us an enormous gantry crane forms a grand industrial archway entrance to the route [Figure 7.26].



FIGURE 7.27 View across Bunker gardens.



FIGURE 7.28 View into Bunker gardens. (Photo: Author).



a *Location 6. (Base Image: Google Earth).*

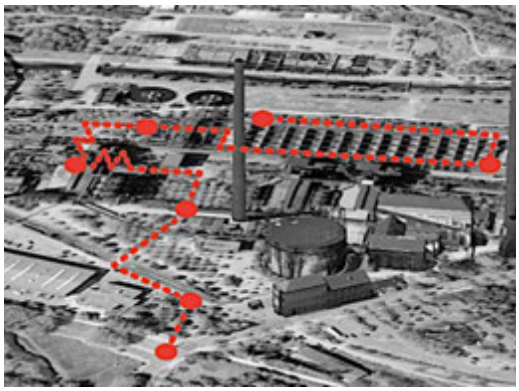


b *Klettergarten. (Photo: Author).*

FIGURE 7.29

Passing over the bunkers we become gradually aware of the functional logic of this industrial landscape: the system of conveying lines moving goods to and fro. Most of the now empty concrete bunkers are filled with vegetation –pioneer species such as field maple, birch and cherry that seem to have spontaneously established themselves here [Figure 7.27]. Some bunkers however are planted out with ornate plantings of grasses and perennials, dramatic shows of colour and texture in formal patterns [Figure 7.28]. The contrast between these delicate splashes of domesticity and the colossal industrial walls of the bunker is disconcerting. What is the intention here? What does the designer mean with these gardens? Through an opening in the lower wall of the planter bunker a walkway emerges and snakes around the garden before disappearing into the opposite wall. We can see that the garden is well-maintained too; clearly a gardener is at work here.

At the far end of the walkway the bunker walls give way to giant tapered concrete columns in stately rows [Figure 7.29]. Rough and monolithic, they conjure up the ruins of a prehistoric Inca city. This landscape is no off-limits archaeological site though, with climbers scramble over the columns and remaining walls like so many insects, their voices echoing off the heavy concrete walls. We can just make out the hooks and pins fixed into the walls at regular intervals, which the climbers are using.



a *Location 7. (Base Image: Google Earth).*



b *Bunker promenade. (Photo: Author).*

FIGURE 7.30



FIGURE 7.31 Bunker passage. (Photo: Author).



FIGURE 7.32 Bunkervorplatz. (Photo: Author).

A sloping grass ramp inside a bunker leads us down from the upper walkway down to ground level. We find ourselves in a shady walk along the back of the ore bunker complex [Figure 7.30]. The hulking mass of the bunker wall resembles a medieval city fortification, replete with swathes of ivy and curious dungeon-like openings. A long neatly clipped hedge edges the walk, behind which play equipment can be seen. People up ahead of us suddenly disappear into one the dungeon-like openings in the wall.

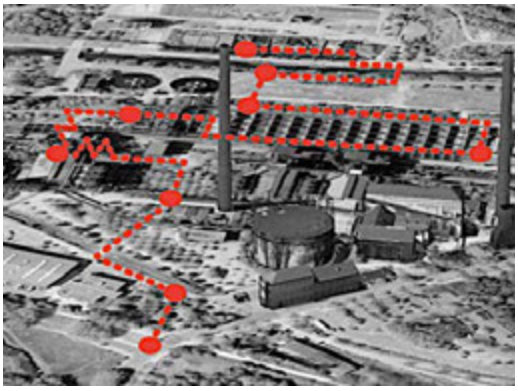
Following them, we pass through a roughly sawn-out opening into a large elongated bunker space, empty save for a pool of water in one end [Figure 7.31]. Stepping-stones lead over the pool which reflects a square of sky outlined by the open roof. An identical hole has been sawn into the opposite wall and through it we can just make out the group we saw playing jeu-de-boule on the Cowperplatz; we have found the passage through the ore bunkers we wondered about earlier on. Turning around, the axis set up through the bunker space by the two openings leads us back through an opening in a hedge, which in turn aligns roughly to a pair of Italian poplars in the middle distance [Figure 7.32].



FIGURE 7.33 Belvedere platforms, Klarwasserkanal. (Photo: Author).



FIGURE 7.34 Klarwasserkanal. (Photo: Author).



*a Location 9. (Base Image: Google Earth).*



*b Water chute. (Photo: Author).*

FIGURE 7.35

Moving across to them, we see that the poplars flank a new break in an old wall, through which steps lead down to a platform above a canal-like waterway, the klarwasserkanal [Figure 7.33]. From the platform we can view up and down the watercourse for hundreds of metres in either direction. The water is clear and flows gently past, while thick swathes of reeds and sedges crowd the banks, softening the rectilinear form of the canal [Figure 7.34]. Behind the bankside planting we can see (or rather hear) voices passing by, strollers moving along the waterway. Other people can be seen walking over a raised walkway further behind them, and from this structure a high pipe spews water loudly into the canal. People crossing a bridge near the waterspout indicate a way across the canal. We return up the stairs and move towards the bridge.

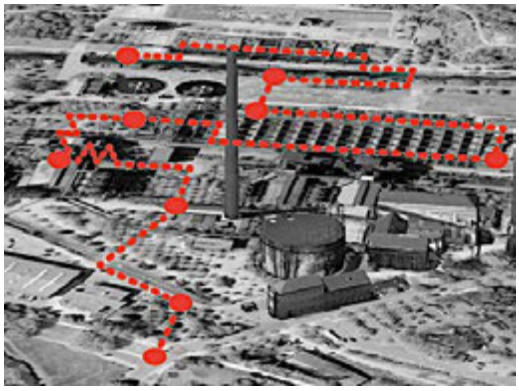
Crossing the canal we meet cyclists, joggers and walkers moving along the canal-side path sign-posted Emscher Promenade [Figure 7.35]. Their behaviour and attributes suggest a different kind of visitor than those we passed in the blast furnace complex. The path's relationship to the waterway suggests the same; by following the watercourse it will obviously continue beyond the park boundaries and form part of a larger path network. Have we reached the edge of the park then, or is this an autonomous element passing through the scheme? Certainly we still have the sense of being inside the former industrial complex, with the curious monolithic bunker structure in front of us - the Gleissteg. Against it, a narrow staircase leads up to a raised walkway.



FIGURE 7.36 Gleissteg bunkers. (Photo: Author).



FIGURE 7.37 Gleissteg bunker gardens. (Photo: Author).



a Location 10. (Base Image: Google Earth).



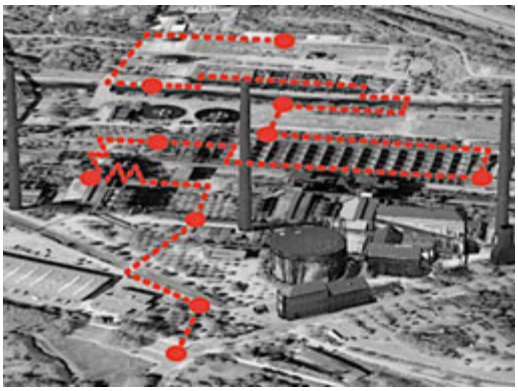
*b Emscher promenade. (Photo: Author).*

FIGURE 7.38

From atop on this raised walkway we can view down into a series of ten former ore bunkers now converted to gardens, each themed differently [Figure 7.36]. Some are planted out with rows of herbs and perennials like kitchen gardens, others with ornate hedge patterns and ornamentals [Figure 7.37].

Seemingly spirited in from historic palace gardens, these delicate designs are an intense contrast to the brutal heaviness of the bunker walls around them. Openings allow access to some of the gardens, and some have benches to sit. Others though, are curiously devoid of entries, secluded paradises one can only observe from a distance. In one of these gardens a simple row of birch logs and ivy spiral down to a central pit - a gigantic mesmerizing whirlpool of decaying and growing vegetation. Swathes of climbing plants slowly engulfing the walls of the complex extend this dialectic of death and new life.

Dropping back to ground level we can see that the Gleissteg walkway we were on is a former raised rail line similar to that above the main ore bunker complex [Figure 7.38]. It continues parallel to the canal before turning in a slow arc to the west. Aside from new railings and a staircase down to the ground, the area seems to have been left in its original state, a notion underlined by an enormous rusting pipeline crossing high in front of us. The mown lawn ends in a zone of low vegetation – a mix of trees and shrubs typical for successional vegetation on disturbed sites. This scrub repeats the allegory seen in the Gleissteg on a grand scale; new vegetation developing out of the remains of an industrial wasteland.



a *Location 11. (Base Image: Google Earth).*



b *Sinterplatz. (Photo: Author).*

FIGURE 7.39



FIGURE 7.40 Sinterweg. (Photo: Author).



FIGURE 7.41 Stadtrandgarten path. (Photo: Author).

Moving under the piers of the Gleissteg we arrive in the Sinterplatz, a roughly rectangular open space the size of a football field bounded by the Gleissteg bunkers and high vegetated mounds. A curious hexagonal concrete object overlooks the space with a circular opening resembling an eye; with a little imagination this could easily pass for a Cyclops figure from science fiction [Figure 7.39]. Remnant strips of asphalt, concrete paving and rail lines cross the space, otherwise empty save a central strip of garden beds in which the object stands. The questions raised by the bunker gardens repeat themselves here: what is intended by the contrast of gardens? How the space is meant to be used is a question; it is large enough for sports events but the gardens, remnant industrial features and ground surface prohibit this. This ambiguity though, is not absolute; at the end of the space below the mounds an amphitheatre has been built – complete with elaborate concrete seating and a central performance podium - clearly an element added to the scheme. We can also make out a lookout on a high mound behind the amphitheatre – plainly a feature not original to the steelworks complex.

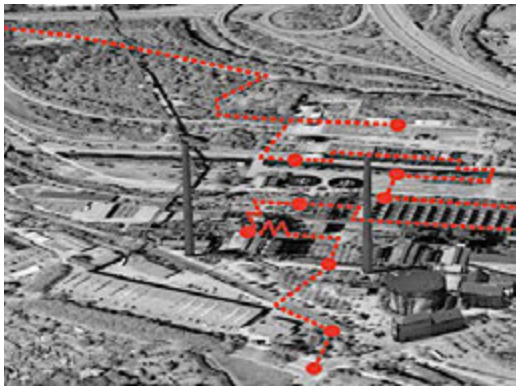
We turn about and follow the Sinterweg, which traces a sweeping arc between steadily thickening stands of birch, poplar and butterfly bush [Figure 7.40]. Turning off onto a path signposting Stadtrandgarten (city fringe garden), we find ourselves in what appears to be a former suburban laneway, lined by overgrown hawthorn trees and edged by a low brick wall [Figure 7.41]. There is however, no suburban house behind it, only a wild thicket of regrowth. A sign indicates this area as *Wildnis* (wilderness). The suburban garden we also expected behind the fence is however present - on the opposite side of the laneway.



FIGURE 7.42 Stadtrandgarten. (Photo: Author).



FIGURE 7.43 Old Hambornerstrasse. (Photo: Author).



*a Location 12. (Base Image: Google Earth).*

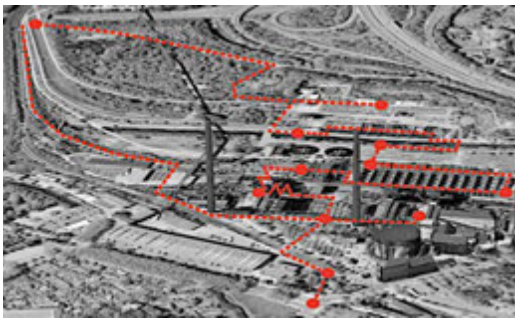


*b Reliefharfe. (Photo: Author).*

FIGURE 7.44

A carpet of theme gardens stretches out under hawthorn trees: beds of grasses and perennials between strips of formal hedges and ornamental plants with paths zig-zagging between. Some of the gardens are mere beds of surface materials: broken tiles, bricks, gravel and coarse rock, evoking the materiality of industrial landscapes [Figure 7.42]. Emerging from the laneway we find ourselves on a street lined on one side by oak trees [Figure 7.43]. Planted mounds rise up behind the oaks and the muted hum of highway traffic can be heard; we realise that the mounds are likely designed as a noise barrier. Was this a former suburban street cut off by the highway? A neat brick fence has been built where the theme gardens front the street. Are these gardens some kind of expression of this former character?

Walking to the end of the street we climb a steep incline and emerge out onto an open grassed strip crossed by wide gravel paths, the Reliefharfe [Figure 7.44]. Concrete pylons and abandoned rail line overrun by grass indicate paths that follow the lines of former rail line. The rail line paths continue on over the bridge into the distance; we seem to be able to continue on indefinitely. Aside from a lone bird of prey wheeling in graceful arcs overhead, there is no-one around. We choose the middle path – the Steinhallenweg – which leads us back to the smelting complex in a high wide arc, and work our way back to the blast furnace complex.



a Location 13. (Base Image: Google Earth).



b Piazza Metallica. (Photo: Author).

FIGURE 7.45

We finish our tour in the Piazza Metallica, a large rectangular space edged by the former Casting Hall, Blower Plant, Smelting Plant and Ore Bunkers. A grid of rough cast iron slabs laid with gaps between them forms a large flat mosaic over which visitors delicately hop [Figure 7.45]. The slabs evoke the pavements of municipal squares. Screens and lighting around the square reiterate this intention. At the same time the rough and pitted texture of the plates reflect the materiality of industrial production, and their rich ochre patina signals the process of oxidisation and decay.

## 7.5 Review of the Scheme as (Compositional) Procedures

### 7.5.1 Basic (Ground) Form

The Duisburg-Nord scheme includes not one but a complex of configurations, including the layout of the park in the former steelworks, the plan arrangements of park areas on the obsolete railway lines, and the different configurations of the Alte Emscher watercourse. The layout is also determined by the configurations of outlying park areas such as the Emscherhalle, the Ingenhammshof, the Eingangsplatz, the highway embankments along the A42 motorway, the Stadtrandgarten, the Schachtgelande, the Emstermannshof and the Delta Music Park.

#### 7.5.1.1 Steelworks Area

An ensemble of parallel linear figures arising from the functional logistics of steel production – the ore storage bunkers positioned along transportation (rail) lines and a sequence of blast furnaces sited along the ore bunkers - determines the layout of the park area around the former steelworks plant [Figure 7.46]. The orientation of these figures (27° east-off-north) is determined by the historical alignment of the Emscher River, which although meandering, followed roughly this orientation. Canalization of the river soon after the opening of the facilities straightened this reach of the river to a narrow linear watercourse - the Klarwasserkanal - matching the alignment of the bunker and blast furnace complex. Later facilities were positioned in the same alignment, with some located on the other side of the canalized section of the river. Other subsidiary structures such as the blower house complex were

laid out on an orthogonal grid based on the N27°E orientation of the linear figures. The plan figure of the park areas in this zone can be divided into a series of three sub-schemas: the Sinterplatz, the ore bunker and the smelter complex.

**Sinterplatz**. Lying on the western bank of the canal, the Sinterplatz is a roughly 200 metre by 100 metre rectangular figure set up by a road along the western boundary and the perpendicular axis set up by a new amphitheatre in its northern end. The axis of the amphitheatre roughly divides the field length-wise into two halves: a zone to the west with a grove of gridded ornamental trees, a strip of linear gardens and a grassed lawn, and a zone to the east including the concrete walled bunkers of the Gleissteg, the Wasserturm (Water windmill tower) and two groves of oak trees on a grid. The bunkers form the basis for a series of gardens and playgrounds within their walls with circulation routes above, along and through the bunkers are aligned to its form: an upper walkway over the bunkers (the Gleissteg) crosses from south to north and three openings in the walls provide access to the gardens at ground level from the canal side.

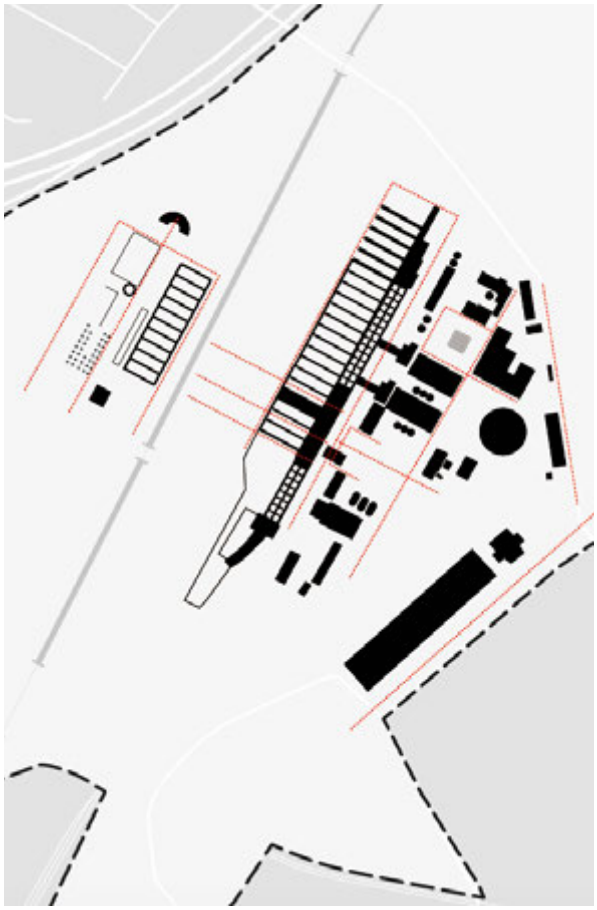


FIGURE 7.46 Plan geometries Steelworks area. (Drawing: Jan Wilbers).



FIGURE 7.47 Plan geometries Rail areas. (Drawing: Jan Wilbers).

**Ore Bunker**. Across the canal lies the ore bunker, a 300 metre-long concrete-wall grid divided into a central zone of 45 by ten metre walled enclosures and an outer zone of smaller bunkers of varying widths on its eastern side. The central bunkers form the basis for a series of gardens, climbing areas and a play feature, with circulation routes above, along and through the bunkers all aligned to its geometry. An upper walkway over the bunkers crosses from south to north, three routes cutting across the bunkers at ground level, two routes lying either side in the north-south direction and two routes cutting through the walls of the complex at grade. A twenty-metre wide garden/playground zone runs the full length of the bunker complex on the canal side.

**Blast Furnace Complex**. Adjoining the bunker is a row of blast furnace towers, associated foundries and subsidiary facilities, separated from the bunker at ground level by a fifteen metre wide thoroughfare, which forms a major north-south route in the park. The smelter complex area proper lies at a level two metres higher than this thoroughfare and is further divided into the blast furnace zone and the area beyond the blast furnace facilities. The remaining area of the smelter complex is a triangular-shaped space edged by the alignment of the powerhouse to the Gruner Pfad (former Emscher Valley rail line) and the warehouses and cooling plants on the Emscherstrasse. This zone is planted out with a six-metre grid of a mixture of cherry trees, limes and conifers aligned to the main geometry of the plant. The grid extends across the Giesshallenstrasse into the upper level of the Cowperplatz but in the northern area of this zone, which is predominantly built up, the tree grid peters out. It also ends at the rail line that passes through the forecourt triangle.

### 7.5.1.2 Rail Harp

The linear organization of the Steelworks plant is a product of the logistics of rail systems delivering substances necessary for ferrous metallurgy such as coke, ore and limestone etc. As such, a network of rail lines leading to and from the Sinterplatz, Gleissteg, Canal Zone and central ore bunker, determines the figure ground configuration of the park in this area [Figure 7.47]. The first line – the Sinterweg – leads away from the Sinterplatz through open woodland before rising in a broad arc to a raised linear



FIGURE 7.48 Plan geometries Emscherbach. (Drawing: Jan Wilbers).



FIGURE 7.49 Plan geometries Emscherschlucht. (Drawing: Jan Wilbers).



FIGURE 7.50 Plan geometries Klarwasserkanal. (Drawing: Jan Wilbers).

embankment 90 metres wide and 6 metres above grade. A second line – the Sinterbunkerweg - leads off the Gleissteg in the same direction on a raised embankment, running at first parallel to the canal then arcing off to run parallel to the Sinterweg in the same broad linear strip. A third line – the Steinhallenweg – leads from the Steinhallenplatz across a bridge over the canal, rising up in an arc towards the raised strip, while a fourth line – the Hochhofenweg – leads from the top of the main ore bunker complex on a raised earth bank around to the same strip. The zone of convergence of the four lines is bolstered by two working rail lines to the running parallel directly south of them, with a third rail line joining these at an angle from the south-west. This weave of infrastructure– 90 metres at its narrowest point and 180 metres at its widest - generates a singular and distinctive geometric form for this area of the park, characterized by converging and diverging lines with remnant slivers of land between them. Further to the west the four rail line paths converge into two, crossing a viaduct over the A59 before crossing over each other, with one forming an entrance promenade down to the Hambornerstrasse and the other continuing at grade over the Hambornerstrasse, ending in a raised savannah-like triangle of low vegetation. converted to a pathway, they now form a series of lines arcing out from the steelworks plant towards the south and then the west.

**Emscherhalle**. One of the two working rail lines leads back around and into the main steelworks complex, ending in the entrance forecourt. This line formed part of the transport network intended to ship products (pig iron) away from the plant, and in former times the line continued across the Emscherstrasse and formed a fan-like diagram of lines splaying out over the Emscherhalle area. Although largely removed, this shunting yard informs the layout of access roads, pathways, parking areas, planting and facilities, which are reduced to three main figural orientations: an east-west orientation of events areas ending in a triangular-shaped mound, a north-south layout of lines of vegetation and mounding, and a central figure determining the orientation of the Emscherhalle, a roofed series of skate and roller facilities. Similar to the battery of rail lines to the west of the complex, this array of lines is bolstered by a converging rail line running parallel to it: the former Emscher valley railway, now converted to a regional recreational route (Gruner Pfad), lying in its own 60 metre wide band of linear vegetation.



FIGURE 7.51 Plan geometries Klarwaserrinne. (Drawing: Jan Wilbers).

### 7.5.1.3 Watercourse

A further distinctive set of geometries in the park design is the layout of the Alte Emscher watercourse. Significantly altered in the course of the plant's development, this formerly meandering river is now divided into four sections in the park plan: the 'Emscherbach' (Emscher Stream), the 'Emscherschlucht' (Emscher Ravine), the 'Klarwasserkanal' (Clear Water Canal) and the 'Klarwaserrinne' (Emscher Rill), each with its own figure ground configuration. Beginning at the Neumuhlerstrasse in the far eastern section of the park, the first part of the stream is laid out in a semi-natural form as a meandering gravel-bedded watercourse, with a path laid out on its southern bank – the so-called Emscher promenade [Figure 7.48]. The streambed runs due west before curving around an allotment garden complex to the north, passing under the Gruner Pfad where it widens out into a shallow gravel-bedded stream in a 50 metre-wide band of half-open woodland. In this section the path shifts to the northern bank. The naturalistic stream layout ends at the point where the watercourse runs up squarely against the A42 motorway. Here the stream takes a right-angle turn and continues on in a V-shaped, canal-like streambed in a twenty-metre wide open corridor flanked by high wooded mounds to the north and a wooded embankment to the south [Figure 7.49]. The watercourse runs in a straight line almost due west for around 500 metres before curving around to the south in a shallow arc, ending at a bridge where the Emscherstrasse crosses the watercourse. It is accompanied its entire length by the pathway of the Emscher promenade on its northern bank.

Beyond the bridge the watercourse changes into a 600 metre long, twelve-metre wide linear watercourse in a trapezium-shaped streambed [Figure 7.50]. The gravelled Emscher promenade continues along its length, now on its western bank. The grassed west bank is planted out with tight clumps of perpendicular hedgerows spaced at 40 metres intervals, while its east bank is lined with a continuous band trees and shrubs. Between this vegetation, a series of platforms over the water are spaced at intervals similar to the hedge clumps, but offset from the position of the plantings on the opposite bank. Twin plantings of Italian poplars mark each of the platform locations and behind them, a former access road parallel to the canal has been retained. Beyond this road a rectangular open zone separates the geometries of the Klarwasserkanal from those of the bunker complex, where the water

filtration tanks are situated. North of the tanks the area is called the Bunkervorplatz, while the area south is known as the Steinhallenplatz. The Klarwasserkanal section of the watercourse ends at the Steinhalleweg bridge, where the watercourse disappears in a culvert under railway embankments before emerging and turning towards the south-west. Here the watercourse changes back to a V-shaped streambed similar to the Emscherschluct section and runs in a straight line for 700 metres, passing under the A59 motorway [Figure 7.51]. The first section of the Klawasserrine is edged by a steep slope up to the railway lines in the north, planted up with linear copses of vegetation through which a pathway meanders. The southern bank is a low, grassy zone varying from 40 to 80 metres wide. The Emscher promenade pathway re-starts here and continues parallel to the stream, along a row of Italian poplars. Beyond the motorway the watercourse curves around to run due west in a straight line before disappearing into a culvert under a railway embankment near the park entrance on the Honingstrasse. This section edges the open grassy fields of the Emstermannshof park area, with a heavily wooded embankment lining its northern bank.

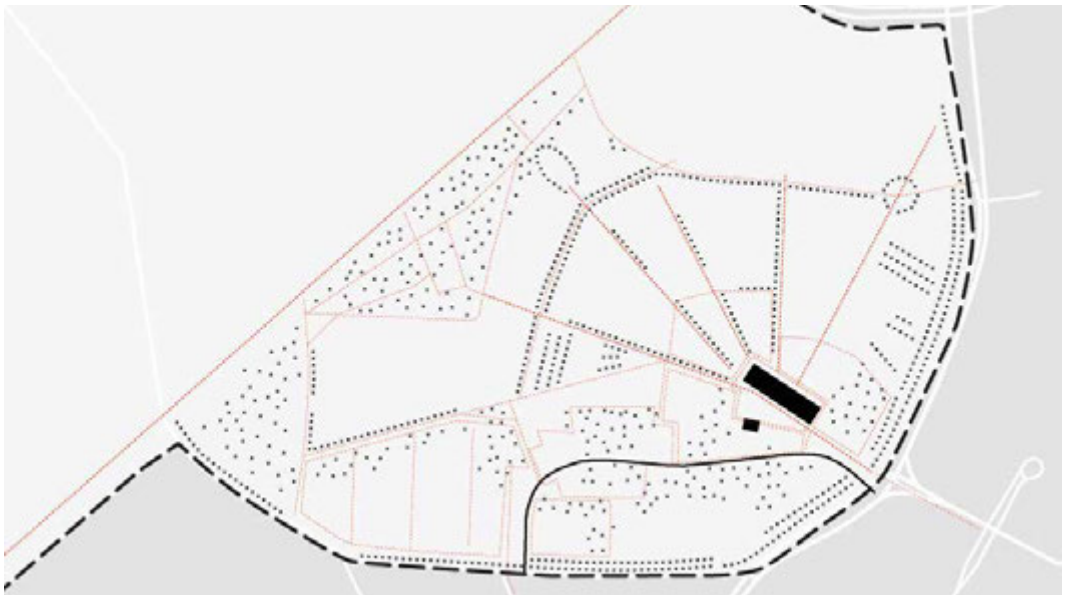


FIGURE 7.52 Plan geometries Ingehammshof. (Drawing: Jan Wilbers).



FIGURE 7.53 Plan geometries Schachtgelande & Emstermannshof. (Drawing: Jan Wilbers).

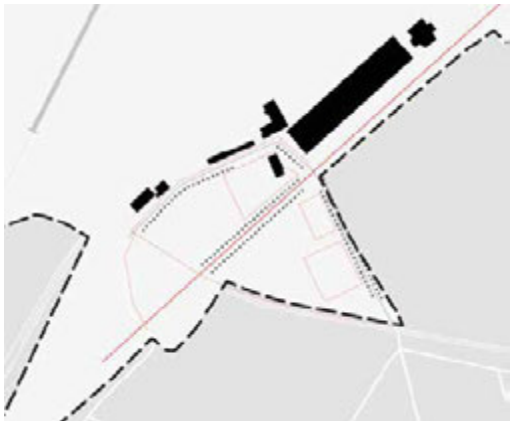


FIGURE 7.54 Plan geometries Eingangsplatz. (Drawing: Jan Wilbers).

### 7.5.1.4 Ingenhammshof

A similar sized area of parkland adjoins the Emscherhalle on the other side of the Grüner Pfad. The layout of this area is organized around a central high point – the former Ingehammshof farmstead, where the historic buildings has been converted to a children's farm complex [Figure 7.52]. A web of lines radiate out from this point to the north and west with tangential lines connecting to these radials at regular intervals. Parcels of land between these lines form fields, with some fenced off for livestock and others open for public access. To the south the radial structure gives way to a compartmented form made up of parcelled quadrants of allotments gardens and parklands.

### 7.5.1.5 Schachtgelande

Park areas west of the A59 motorway are divided into three distinct zones, each separated from each other by infrastructure bundles. The largest of these areas is the so-called Schachtgelande – the former location of the mineshafts that brought up coal to fire the blast furnaces of the main plant. This area is another roughly triangular elevated plateau measuring 500 by 400 by 700 metres formed by edging railway lines which cut off it from other park areas [Figure 7.53]. The only access points are via an entrance avenue on the Hambornerstrasse and a small access way via a stairwell down to the Beeckerstrasse in the far west point of the park. Its layout is more or less defined by the residual features left over after the mineshafts were removed: a central axis beginning with an avenue of plane trees on the Hambornerstrasse leading up to the plateau and continuing as an open line edged by occasional trees to end at the western-most point of the plateau. The remainder of the terrain is undefined in terms of its figure ground, although vegetation appears to be zoned in a series of three fan-shaped bands across the plateau: an open grassland area, an open woodland zone and a closed woodland zone extending to the rail line on its southern border. In the far western corner an open triangle is formed by former tar pits.

A slightly smaller triangular park area lies directly to the south of the Schachtgelande, bordered by the Meiderich train line and the A59 motorway. This zone is made up of a series of differently shaped grassed playing fields arrayed along the Emscherpromenade pathway, divided by avenues of poplar. The main entrance to the area lies opposite a bridge over the A59 motorway, with a gazebo structure stands on a raised rectangular plateau. From here a series of poplar avenues radiates out into the park.

### 7.5.1.6 Eingangsplatz

Directly south of the steelworks lies an isolated area of parkland bordered by the former administrations buildings on the Losorterstrasse, the allotment gardens complex on the Talbanstrasse, and the Ruhorter railway line [Figure 7.54]. This roughly triangular space is laid out as an open woodland with street trees lining both streets and a central avenue of trees lining the Grüner Pfad which diagonally crosses the area. A sports field, playground and parking area are laid out aligned along the Talbanstrasse.

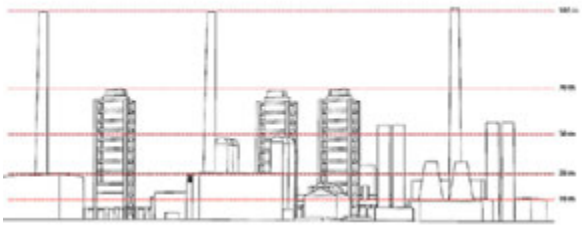


FIGURE 7.55 Elevation & dimensions Steelworks complex. (Drawing: Alice Lewis & Author).

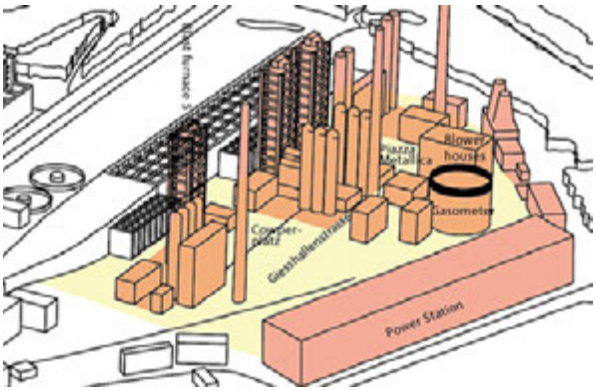



FIGURE 7.56 Axonometric projection: Steelworks complex with spatial zones. (Drawing: Alice Lewis & Author).

## 7.5.2 Spatial Form

### 7.5.2.1 Steelworks Area

At the macro scale, the spatial form of the steelworks area is dominated by the 400 metre long spine of blast furnace towers, chimneys, foundries and subsidiary structures. Vertical elements in this spine such as chimneys rise to more than one hundred metres, with blast furnaces rising to seventy metres and coking towers to fifity metres [Figure 7.55]. The cumulative spatial form of these structures presents a dense 'forest' of vertical forms visible from numerous points in and around the park, forming an orientation point and omnipresent visual spectacle. The remarkable form of the complex is utilized in the design in different ways. Two lookout points have been introduced in the park offering views back towards this feature, and lighting plan by Jonathon Park highlights different aspects of these structures at night, forming a nocturnal spectacle visible up to fifty kilometres away. Visitors can also climb to the top of blast furnace five to gain views over the park and the wider context. Remaning structures around this spine can be grouped into forms rising to heights of twenty metres and ten metres respectively. In elevation, these elements form a dense collection of buildings evoking the spatiality of a small town from a distance.

In plan form, these buildings and structures are arranged in a roughly triangular configuration, with the Blast Furnace spine forming the long side of the triangle, and warehouses and cooling plants along the Emscherstrasse - together with the Power House and former office buildings - forming the two other sides [Figure 7.56]. This configuration creates an almost fully enclosed compound, with a collection of buildings such as the Gasometer and Blower Houses standing freely within it. Although some parts of the compound are fenced off to the public, gravel finishes in combination with remnant hard surfaces form an almost continuous trafficable area in this zone. In places where industrial structures have been removed, new publicly accessible areas are created. One of these spaces - the Cowperplatz - provides access through the blast furnace zone to a thoroughfare between the Blast furnaces and the ore bunker. A two metre level difference between the compound and the ore bunker is negotiated in the Cowperplatz with a double terrace: the upper level continues halfway into the square while a retaining wall and central ramp separates this upper entrance level from an intermediary terrace level

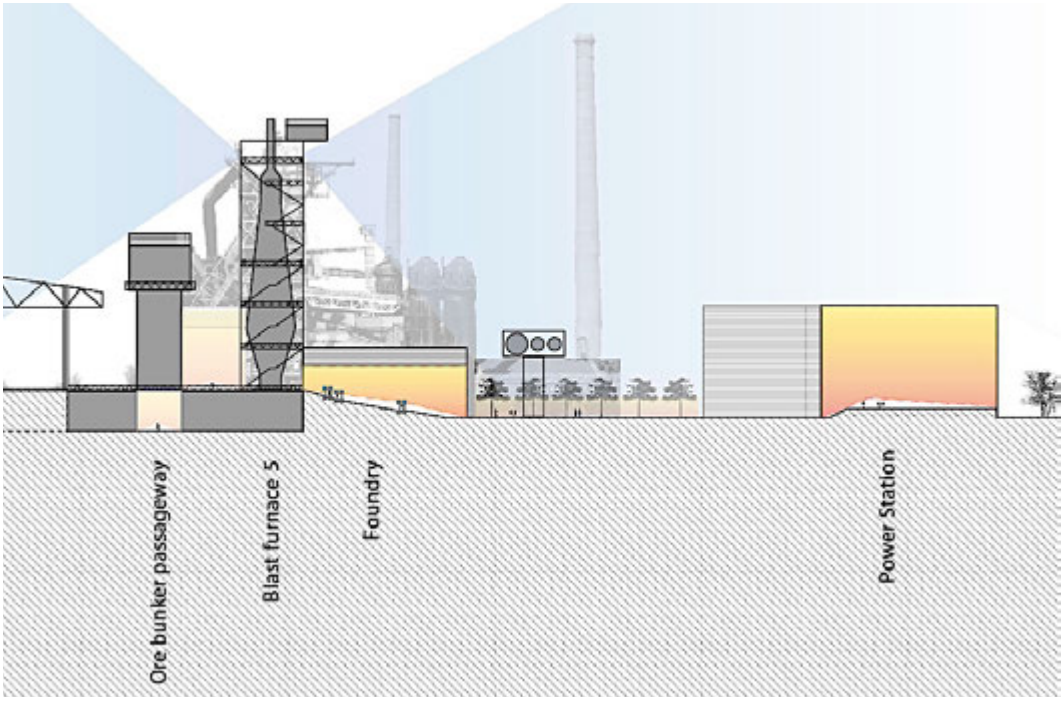



FIGURE 7.57 Sectional projection: spatiality of the steelworks complex, east. (Drawing: Author).

extending to the edge of the thoroughfare. A second retaining wall and ramp system allows access down to the thoroughfare level. A similar quadrangular space further north in the zone - the Piazza Metallica, is closed off on the ore bunker side. A north-south route - the so-called Giesshallenstrasse – connects both 'squares'.

A stand of trees on a six-metre grid aligned to the geometry of the blast furnace spine is planted in the compound. This *bosque* extends from the rail line in the forecourt across the Giesshallenstrasse into the upper level of the Cowperplatz, creating a canopied sub-space within the compound, and introducing a human scale to the immensity of the industrial complex [Figure 7.57 & 7.58]. In places, structures raised up from the ground form vast subterranean voids. One of these - the thoroughfare between the ore bunker and the blast furnaces, forms a major north-south route through the complex. Public access to structures such as the foundries, and events spaces such as the converted power house form large interior spaces in this ensemble. The sloping floor of the foundry also leads up to a raised level beneath blast furnace five. From here park visitors are surrounded by industrial machinery - as if standing within the ironworks itself. A set of stairs to the top of the blast furnace allow visitors to ascend to a height of more than seventy metres. At each landing vistas progressively reveal the complex and the landscape around it. The ascent also distances the visitor literally and figuratively from the environment far below. From the top panoramic vistas can be had with views to surrounding neighbourhoods and landmarks up to fifty kilometres away.

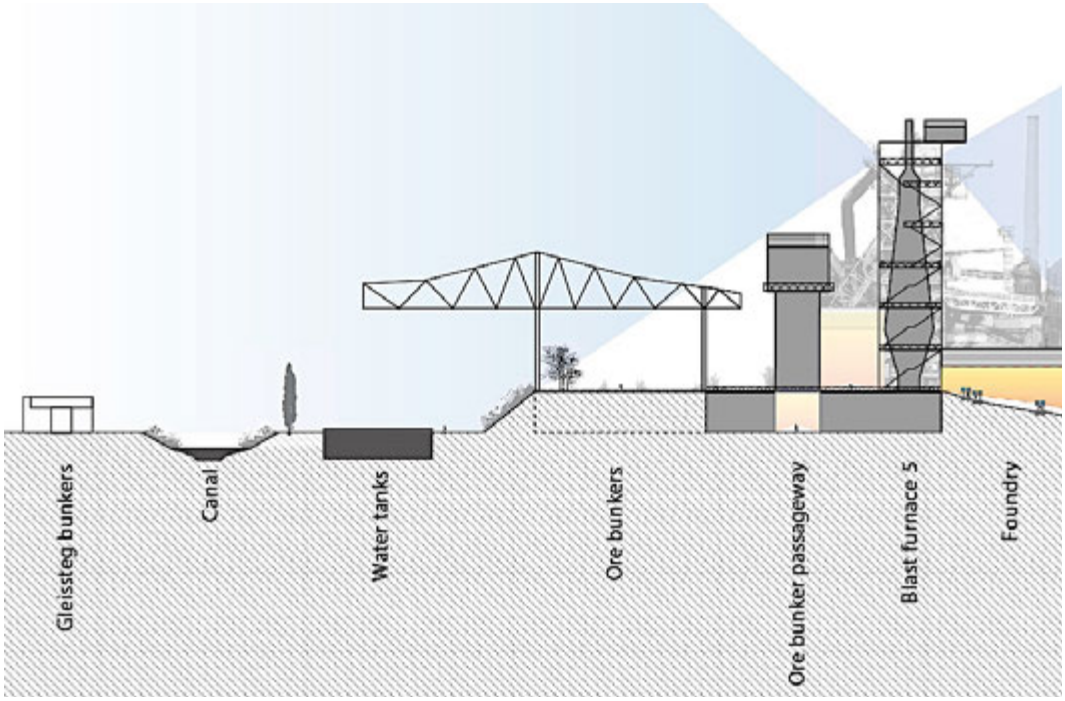



FIGURE 7.58 Sectional projection: spatiality of the steelworks complex, west. (Drawing: Author).

### 7.5.2.2 Ore Bunkers & Sinterplatz

The diversity of spatial conditions in the former Steelworks area is complemented by interventions in and around the main ore bunkers. Running as it does the full length of the blast furnace spine, the bunkers form a barrier to park areas beyond it; only two existing narrow tunnels to the south provide access through it. The scheme introduces a new thoroughfare through the bunker adjacent the Cowperplatz, where door-sized perforations in the inner and outer walls of the bunker enable the public to experience being inside one of these bunker spaces. Submerged in the bowels of the ironworks and cut off from the outside world save a rectangular window of sky above, this long walled chamber generates a sensation of passing through a canyon. A ramp leading up to an opening halfway up the wall of the bunker leads the visitor through a series of spaces identical to this one – some roofed creating dark echoing voids, others open and planted out with grasses and perennials. Another walkway crossing overhead follows the line of former train line that carried ore carriages over the bunkers, linking the walker to the stratified system of conveying lines of the former steelworks.
At the end of the upper walkway a sloping grass ramp connects down to ground level at the rear of the bunkers. This area is spatially defined by a series of parallel linear features: the large open strip of the Bunkervorplatz edged by poplars, the linear corridor of the canal, and the Sinterplatz bunkers and Gleissteg walkway beyond it [Figure 7.59]. These features generate a coulisse-like spatiality invoking the stratified logic of industrial production, evidenced in historic photos of the situation. Thus, although the spatial density and verticality of the blast furnace area is replaced here by horizontality and spatial openness, there is still a sense of being within the industrial complex. Movement through this area is similarly arranged: paths and walkways trace these parallel forms, with only sporadic cross connections. From the western bank openings in the walls of the Sinterplatz bunkers provide access to a series of gardens. Another raised walkway - the Gleissteg – allows movement over the top of the bunkers so that park visitors can view these gardens from above, or view the spectacle of the steelworks from a distance.

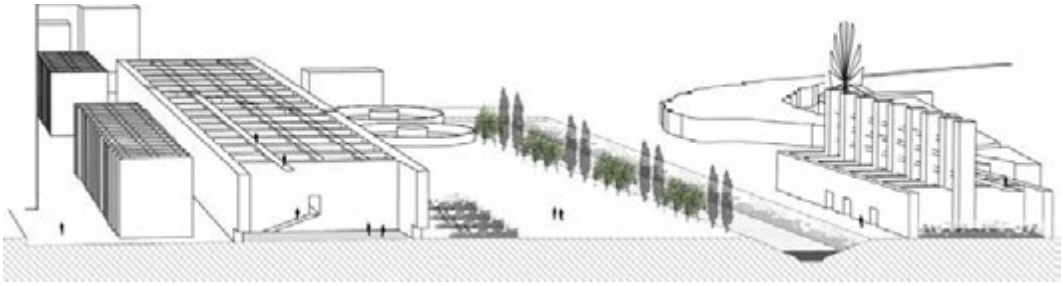


FIGURE 7.59 Sectional axonometric: spatiality of the bunker-canal-Gleissteg zone. (Drawing: Alice Lewis & Author).



FIGURE 7.60 Rail Harp. (Photo: Dick Sijtsma).



FIGURE 7.61 Emscherhalle area. (Photo: Author).

### 7.5.2.3 Rail Harp & Emscherhalle

As with the walkway over the main ore bunker, the Gleissteg is a converted former railway line, connecting to a raised embankment that turns in a slow arc away from the bunker towards the south-west. This embankment forms part of a series of landforms left over from former rail lines connecting to the Sinterplatz, Gleissteg, Bunkervorplatz and Ore bunkers. These landforms form the so-called Bahnpark - a fan of embankments left over from the four rail lines that connect to the steelworks complex. The zone of convergence of the four lines is bolstered by two working rail lines to the running parallel directly south of them, with a third rail line joining these at an angle from the south-west. Together, this weave of embankments – 90 metres at its narrowest point and 180 metres at its widest – forms a butterfly-shaped plateau characterized by a dune-like formation of peaks and troughs. These embankments are covered in savannah-like vegetation, interspersed with relic power-line masts [Figure 7.60]. The scheme simply converts these former lines into 'promenades', with each of the four routes now bearing the park visitor through this landscape with the measured pace of a coal truck.



FIGURE 7.62 Emscherbach. (Photo: Author).



FIGURE 7.63 Emscherschlucht. (Photo: Author).

The spatiality of this landscape is thus one of inexorable, dynamic movement. The combination of the raised position of the plateau and the embankments lining the routes also reduces visibility of the surrounding urban context, save an occasional glimpse of Blast furnace towers in the middle distance. Further west the lines converge on the viaduct over the A59 and drop down to the entrance on the Hambornerstrasse as a generous, tree-lined thoroughfare.

Formerly, rail lines also continued through the steelworks to the Emscherhalle area, an ore storage area and shunting yards east of the blast furnaces, now converted to parking and events areas. This large flat expanse is partitioned into rectangular fields edged by swathes of successional vegetation [Figure 7.61]. A wide band of woodland along the former Emscher valley railway, (now converted to a regional recreational route – the Gruner Pfad), edges the area. A triangular mound at the far end of the fields offers views back to the Blast furnace towers.

### 7.5.2.4 Watercourse

The schema of industrial logistics underlying the spatial form of the ore bunker and Sinterplatz areas extends in the spatial elaboration of the watercourse [Figure 7.64]. The only exception to this industrial spatiality is the reach of the watercourse in the far eastern section of the park. Here the waterway begins as a meandering gravel-bedded stream, curving around an allotment garden complex in a 50 metre-wide band of half-open woodland [Figure 7.62]. From here, the watercourse turns westward and continues for around 500 metres in a monumental, twenty-metre wide corridor lined by wooded embankments, the Emscherschlucht [Figure 7.63]. From the Emscherstrasse bridge, the watercourse runs through the Steelworks area (the Klarwasserkanal) in a straight line for 600 metres, with only swathes of reeds and sedges along the bank to soften its otherwise rectilinear form [Figure 7.65]. Its west bank is also planted out with low clumps of perpendicular hedgerows at regular intervals, behind which runs the Emscher Promenade. The east bank is lined with trees and shrubs, between which a series of platforms extend over the water at regular intervals. Beyond the steelworks area, the watercourse disappears into a culvert under the rail embankments before emerging to become a V-shaped streambed running in a straight line for 700 metres - the Klarwaserrinne [Figure 7.66]. In this reach the watercourse is edged by a steep slope up to the railway lines in the north with linear copses of vegetation, while the southern bank is a low, grassy zone planted with monumental row of Italian poplars Finally, the watercourse continues under the A59 motorway, curving gently before exiting the park near the park entrance on the Honingstrasse. This section edges the open grassy fields of the Emstermannshof park area, with a heavily wooded embankment lining its northern bank.

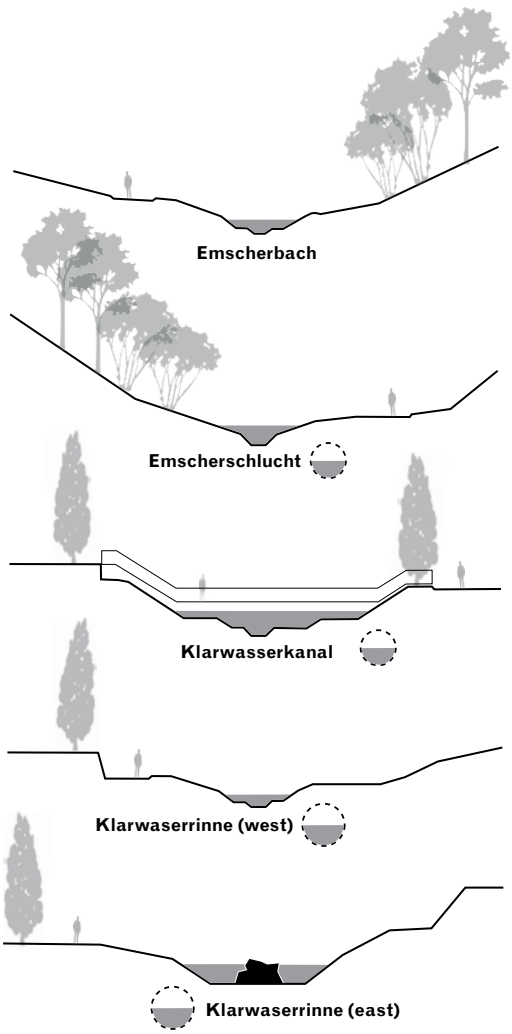



FIGURE 7.64 Cross-sections of the Alte Emscher. (adapted from Latz, 2016).



FIGURE 7.65 Klarwasserkanal. (Photo: Author).



FIGURE 7.66 Klarwaserrinne west. (Photo: Author).



FIGURE 7.67 Klarwaserrinne east. (Photo: Author).

### 7.5.2.5 Schachtgelande

West of the A59 motorway, the so-called Schachtgelande is an elevated plateau edged by railway lines and only accessible from the Hambornerstrasse. Its spatiality is defined by the remnant mining hardscapes, with successional vegetation growing in fan-shaped bands across the plateau: an open steppe-like grassland similar to the Emscherhalle area, then an successional savannah-like vegetation, and finally a successional woodland zone extending to the rail line on its southern border [Figure 7.68].



FIGURE 7.68 Schachtgelande. (Photo: Author).



FIGURE 7.69 Stadtrandgarten. (Photo: Author).

#### 7.5.2.6 Wildnis, Stadtrandgarten & Highway Embankments

The park area immediately west of the Steelworks forms a timbered area of successional woodland and treed mounds along the A42 motorway. Open areas occur within the woodland such as the Stadtrandgarten complex [Figure 7.69], while open areas on the mounds form lookout points and rest areas.

### 7.5.3 Programme Form

#### 7.5.3.1 Key Amenities & Attractions

An overview of the park programme based on official park maps lists a series of key amenities and attractions in the scheme: visitors centre, café/restaurant, events venue, meetings venues, lookout tower, adventure course, wind energy tower, water park, Sinterplatz, Bunkervoorplatz, cooling tanks, bunker gardens, climbing walls, concert venue, reception venue, dive tank and [Figure 7.70]. These key programmes are almost exclusively conversions of defunct steelworks (infra)structures and located within 300 metres of a central point in the former complex (Cowperplatz). The remaining three key programmes - railway park, wilderness and BMX & skating venue - are located just outside this zone. Beyond the zone of key amenities and facilities, the park also includes programmes such as sports and playing fields, theme gardens, water gardens & allotment gardens, amphitheatre and a children's farm. Large areas of the park are also programmed for exploring and rambling through woodland and derelict industrial land, while various open areas of the former steelworks complex are reserved for impromptu and organized events. The cumulative park programme can be grouped into four main categories: sports & recreation, experience & contemplation, social gathering & events and hospitality & services.



FIGURE 7.70 Motorway embankments area. (Photo: Author).

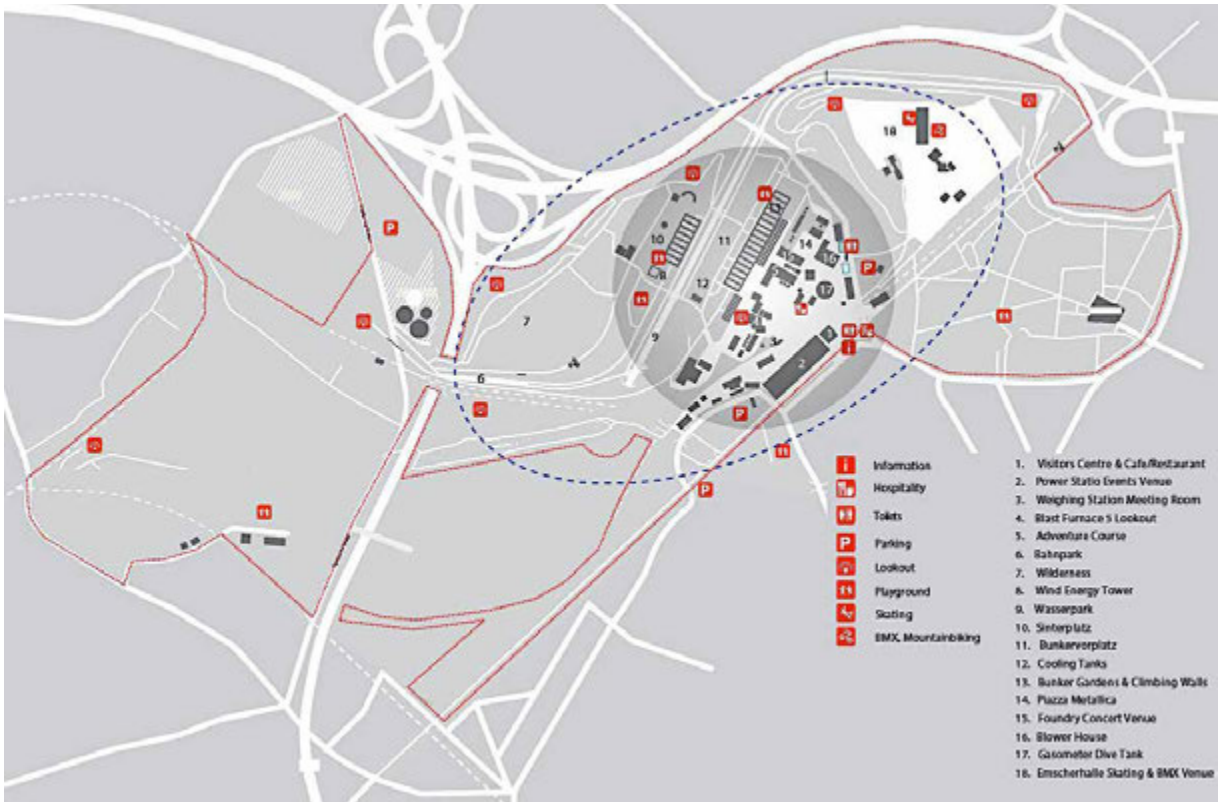



FIGURE 7.71 Key amenities. (Drawing: Author).

### 7.5.3.2 Total of Activities & Amenities

Sports & Recreation. Amenities such as extreme sports facilities form part of the sports and recreation programme [Figure 7.71]. The twelve-metre high rough concrete walls of the northern section of the main ore bunker complex now form a maze of climbing routes, home to a 2000 member alpine climbing club. In the main entrance area, the flooded former Gasometer is the setting for professional diving courses and recreational diving, while the foundry building is converted to an adventure ropes course. Other extreme sports facilities include skating ramps and bowls in a converted building in the former

shunting yards terrain (Emscherhalle). In terms of field sports, two designated soccer pitches are located in the Emstermanshof area, a mini-pitch just south of the steelworks plant, and a basketball court and Petanque court in the Ingenhammshof complex. A series of large playing fields are laid out in a rough semi-circle around the Ingenhammshof complex in the zone along the watercourse in the central section of the park, and along the watercourse in the Emstermannshof area. Children's playgrounds are realised in and adjacent to the main ore bunkers, and in the Sinterplatz bunkers. Play areas are also located near the Ingenhammshof and in the entrance zone south of the powerhouse. Orchard plantings and small-crop garden plots around the Emstermannshof farmstead elaborate on the working garden as recreational activity. This thematic is echoed in the three allotment garden complexes located within the park. Four other allotment complexes also lie just beyond the park boundary.

**Nature Experience & Ecology.** The garden is also operational in the elaboration of nature experience and ecology as a programme category in the park. Many bunkers in steelworks complex are converted to theme gardens, with domestic plantings alluding to vernacular and kitchen gardens or recalling gentrified schemas with formal hedges and ornamental planting. Some also play on the theme of disturbance, drawing on the aesthetic novelty of volunteer plant communities on toxic soils. West of the bunkers, the thematic of the post-industrial garden is extended in the Stadtrandgarten, where industrial materials combined with ruderal plants create spectacular sensorial worlds. Planting schemes along the watercourse also draw on the trope of the garden, elaborating both the experiential quality of aquatic environments and the utilitarian aesthetic of water purification, with platforms along the water designed for viewing. This form of nature experience however, is largely a by-product of ecological measures taken on and around the watercourse, including channelling, cleaning and storing storm-water, and habitat for aquatic flora and fauna. The ecological functioning of the scheme also informs the treatment of other remnant industrial landscapes. Large areas of successional woodland have been retained, with stands of birch and willow growing on coal-dust soils. Likewise, the savannah-like plant communities of exotics growing on the splay of rail tracks (Bahn Park) has been retained, as have steppe-like communities growing on the casting sediments and the sands and slags of the former manganese ore depot.[261] These areas of the park are also programmed as environments to experience the botanic, ecological and sensorial qualities of post-industrial nature with a mosaic of post-industrial woodlands, savannah and grasslands stretching across the site from west to east.

**Social Interaction & Events**. Much of the former steelworks area is intended for social interaction or organized events. A mosaic of hardscapes forms a continuous paved ground-scape between the main ore bunkers, the Emscherstrasse and the power Hhouse. Visitors are free to move about the complex at will over this surface, restricted only by fenced off installations and buildings. Subtle elements elicit certain activities: the grid of trees in the main entrance area forms a shady canopy to shelter and play beneath; a formation of steel plates in the Piazza Metallica elicit play; and a scattering of seats form resting places in the Cowperplatz. Fairs and festivals are held in the elongated open space between the ore bunker and the river, and in the hardscape areas of the Sinterplatz and the former Emscherhalle shunting yards. Indoor social and cultural events are programmed in the converted power house, blower house and foundry and performances take place in the Sinterplatz amphitheatre.

**Hospitality & Services.** Included in the programme schema are a café, restaurant and kiosk in the main entrance area. A café is also located in the Emstermannshof area. The former steelworks offices have been converted to a youth hostel where park visitors can stay overnight and toilets are located in two places in the central steelworks area. The scheme has four large parking areas: three located around the central complex and one near the Delta Music park.

261 Latz & Latz, 1997.

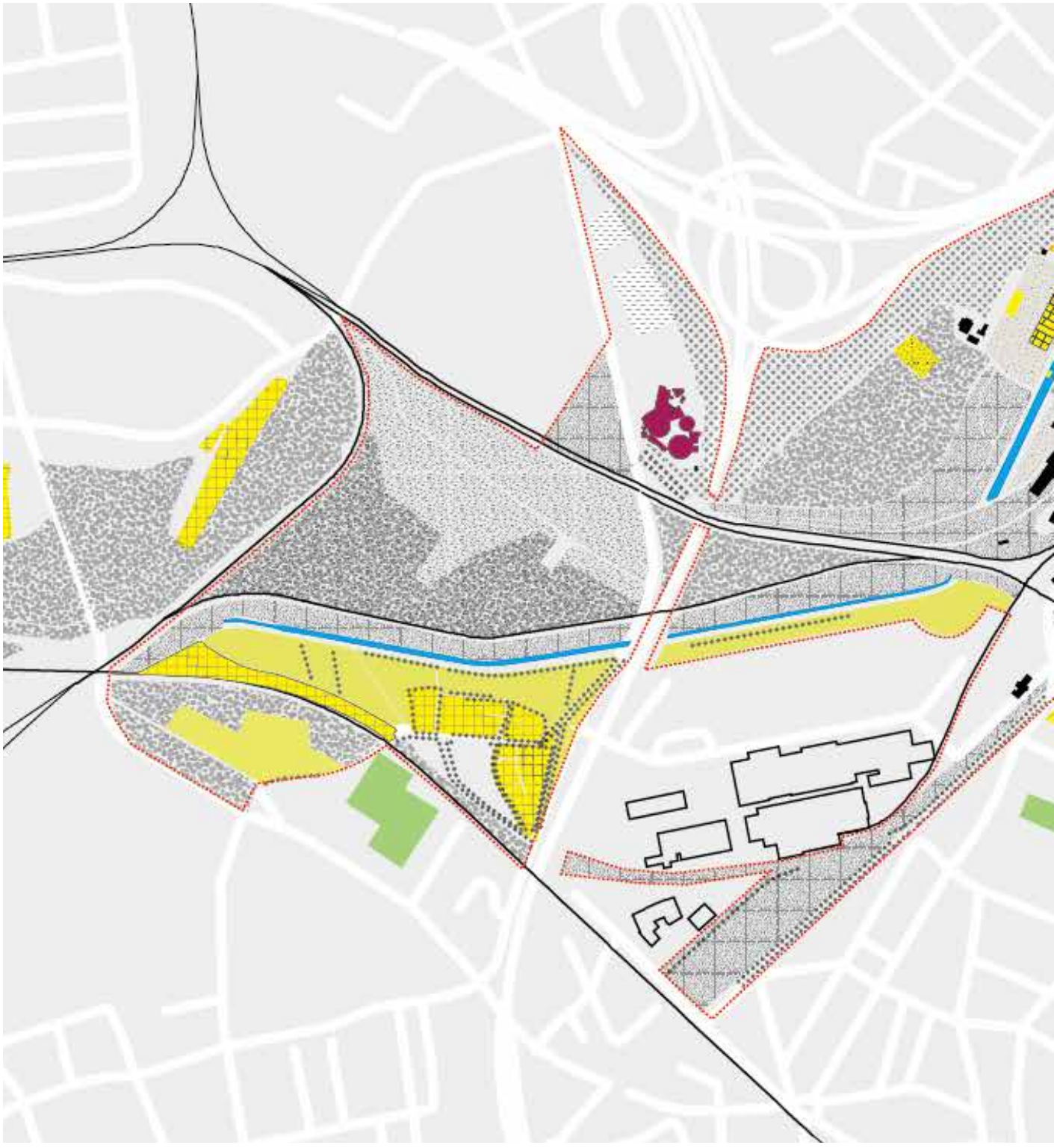
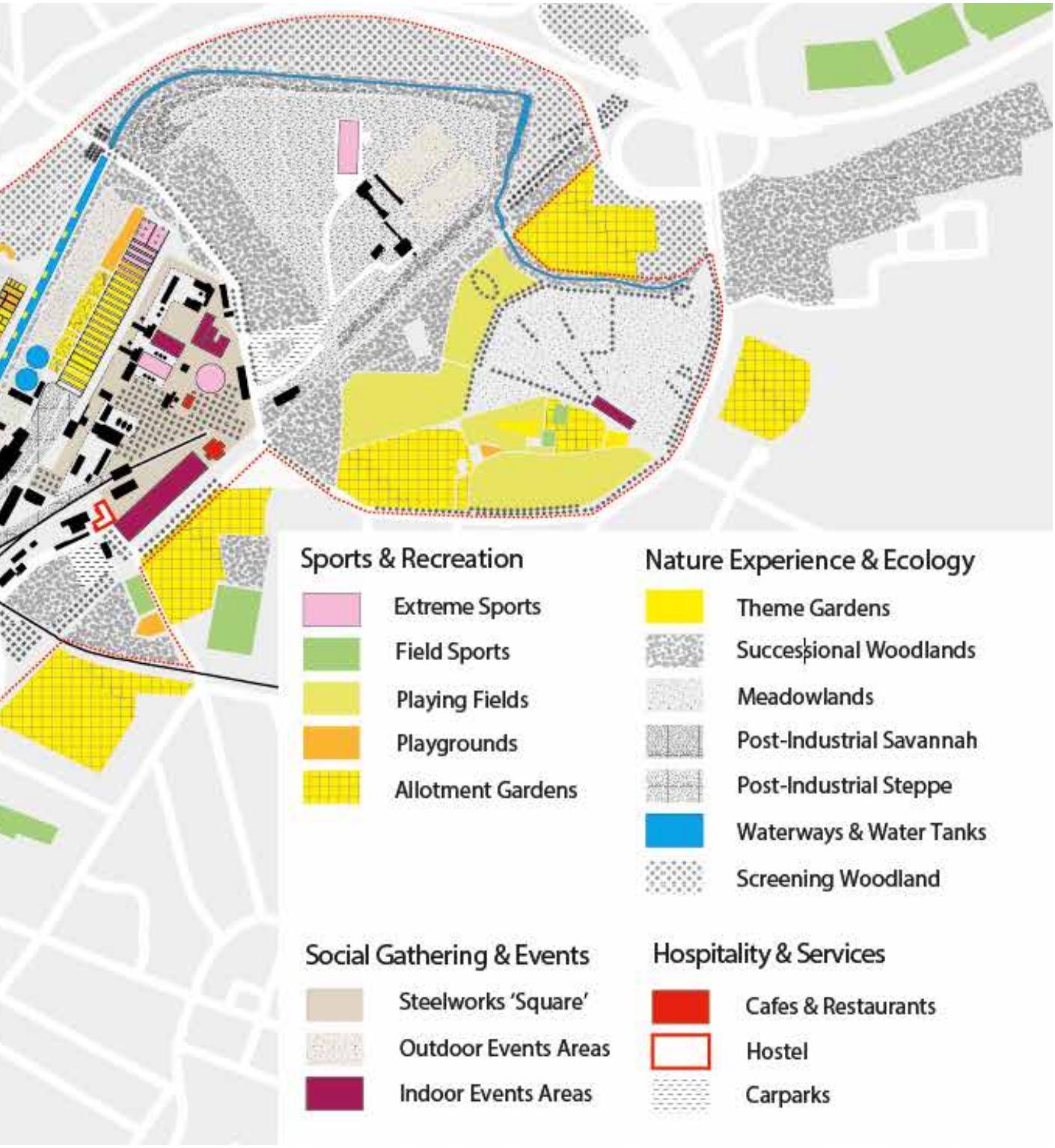


FIGURE 7.72 Overview of total activities & amenities. (Drawing: Jan Wilbers & Author).


Sports & Recreation
Extreme Sports
Field Sports
Playing Fields
Playgrounds
Allotment Gardens
Nature Experience & Ecology
Theme Gardens
Successional Woodlands
Meadowlands
Post-Industrial Savannah
Post-Industrial Steppe
Waterways & Water Tanks
Screening Woodland
Social Gathering & Events
Steelworks 'Square'
Outdoor Events Areas
Indoor Events Areas
Hospitality & Services
Cafes & Restaurants
Hostel
Carparks



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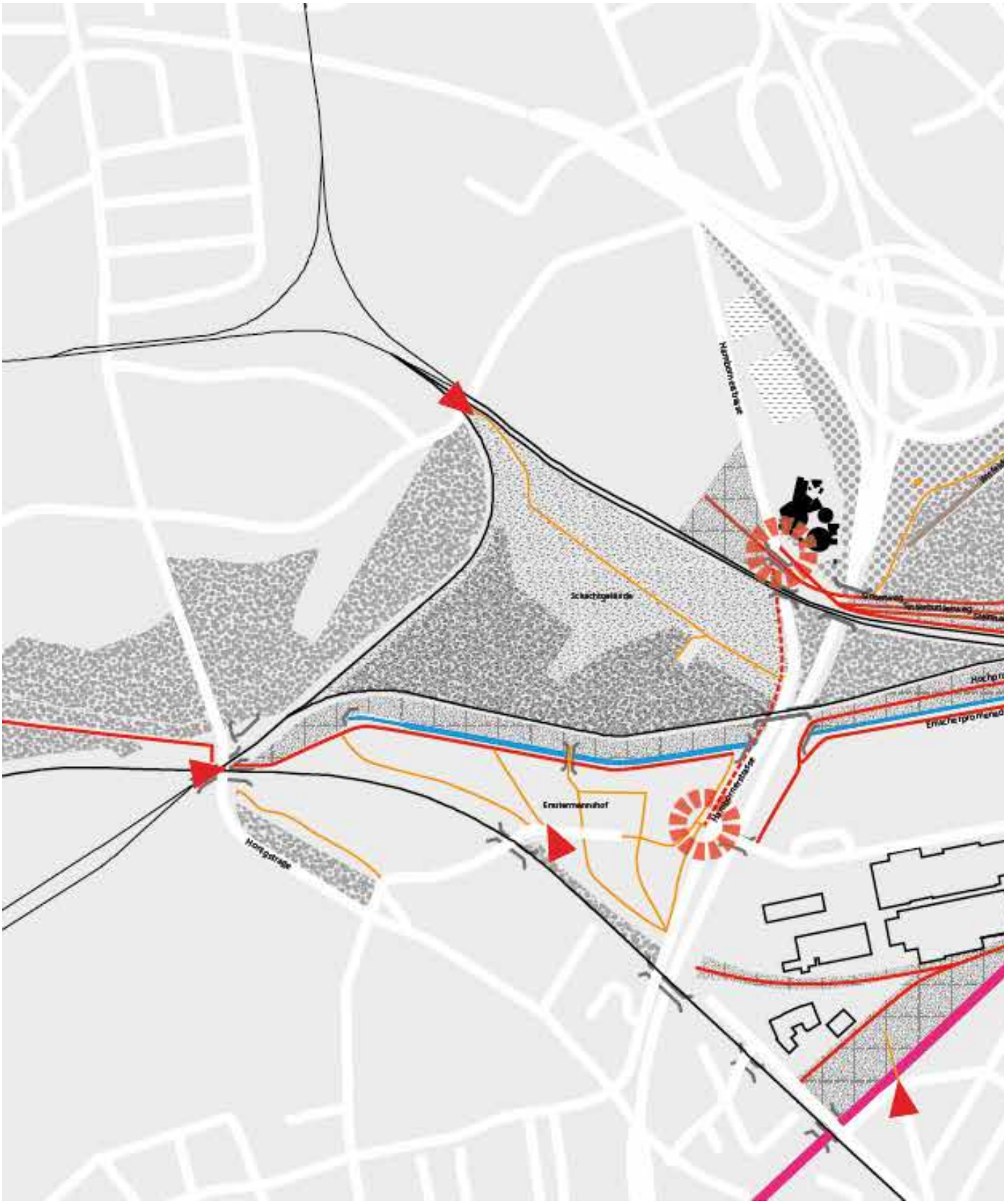
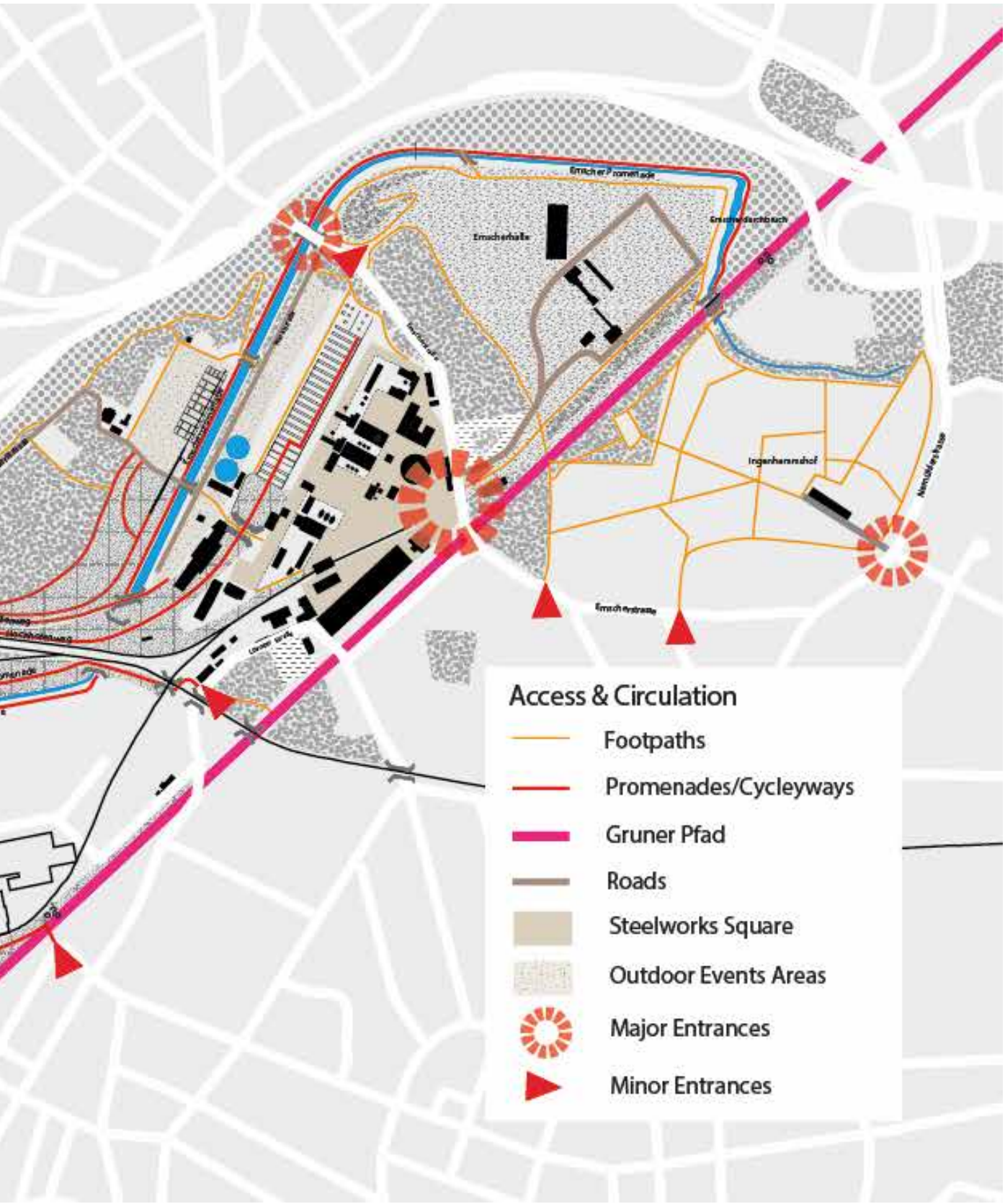



FIGURE 7.73 Access & Circulation. (Drawing: Jan Wilbers & Author).


Emscherhalle
Ingenhammshof
Access & Circulation
Footpaths
Promenades/Cycleways
Gruner Pfad
Roads
Steelworks Square
Outdoor Events Areas
Major Entrances
Minor Entrances



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### 7.5.3.3 Access and Circulation

At the time of the competition, a complex network of rail lines, waterways, streets, roads and highways criss-crossed the site, dividing it into numerous sub-areas and isolating it from surrounding neighbourhoods. Large areas of the territory had few or no connections, save elementary roads left over from industrial activity. Moreover, the site was oddly-shaped, an S-shaped agglomeration of areas lying either side of the canalized Alte Emscher. Much of the programme form of the project thus focuses on new internal circulation system to access and connect to park areas, and to overcome barriers to surrounding areas [Figure 7.72]. Defunct rail lines were converted to public thoroughfares for promenading and cycling, and a new route was introduced along the watercourse running the length of the park. Oriented primarily from east to west, these industrial lines were however of little use in connecting to neighbourhoods north and south of the park. Existing north-south road connections running through the park were thus used as new access zones, with two major entrances on the Emscherstrasse, two on the Hambornerstrasse, and one on the Neumuhlerstrasse. Each of these entrance areas was demarcated by a grid of trees. New routes were also made by extending street lines into the park in the Emstermannshof area, creating two minor entrances on the Emscherstrasse, These paths connected up to a fan-like pattern of routes through playing fields and meadows. In the Ingenhammshof area, new routes leading out from the residential neighbourhoods into the park forming a new entrance to the park. Other minor entrances were created to the Obermeiderich neighbourhood along the Grunerpfad zone. Paths were introduced in the wooded mounding alo ng the A42 motorway.

## 7.5.4 Image Form

### 7.5.4.1 Steelworks Area

The blast towers, chimneys, foundries and subsidiary structures of the steelworks are a central visual element in the park, presenting an almost uniterrupted spectacle. By night, the lighting scheme transforms these features into fantastical forms, to some evoking a fairy-tale citadel. By day, the narrative of the city is extended in the naming of spaces such as 'Giesshallenstrasse', 'Cowperplatz' and 'Piazza Metallica'. Not only do these spaces curiously resemble the scale and form of streets and squares (so that their nomenclature almost goes unnoticed), in evoking these public space typologies the scheme re-frames the mental image of the site in the mind of the visitor to the streets and passages of an historic city [Figure 7.73]. The massive iron plates laid out in the centre of the Piazza Metallica on the other hand, seem to come from some iron-age foundry; here is no civilized urban trope but an alchemic tale of earth's miasmic processes harnessed by a primitive civilization. In the forecourt, the *bosque* of cherry trees evoke yet another world – that of orchards and plantations of the agrarian countryside. Their static layout on a regular grid – aligned precisely to the plant's alignment - blur this image however; this is no agrarian allusion but an undeniable gardening reference [Figure 7.74].

**Ore Bunkers & Sinterplatz** . This reference is entirely unambiguous in the bunker gardens [Figure 7.75]. Meticulous plantings in the various bunkers turn these extraordinary spaces into familiar domestic scenes. We find gardens with plantings of herbs and perennials evoking kitchen gardens, while plots with ornate hedge patterns and ornamentals mimic gentrified grounds. Swathes of climbing plants engulf the walls of the bunkers, creating a gargantuan living structure. In the Sinterplatz, a curious hexagonal concrete object with a single Cyclops-like eye evoking a figure from a science-fiction film



FIGURE 7.74 Cowperplatz. (Image: Author).

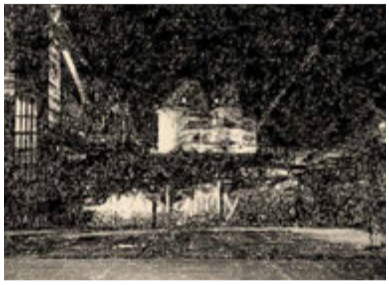


FIGURE 7.75 Piazza Metallica. (Image: Author).



FIGURE 7.76 Bunker garden. (Image: Author).



FIGURE 7.77 Sinterplatz. (Image: Author).



FIGURE 7.78 Klarwasserkanal. (Image: Author).



FIGURE 7.79 Emscherbach. (Image: Author).



FIGURE 7.80 Rail Harp. (Image: Author).



FIGURE 7.81 Emscherhalle. (Image: Author).



FIGURE 7.82 Schachtgelande. (Image: Author).

is curiously innocuous [Figure 7.76]. A single tree growing inside it confirms the harmlessness of the form. Beyond it, an enormous windmill invokes a vague American west, but in spinning languidly in the light breeze we see a very different image – that of a modern water pumping installation. Water pumped up is reticulated through channels to the adjacent canal.

**Alte Emscher.** The high-tech water sytem image protrayed by the windmill has its parallel in the waterway. We see clear flowing water – not the polluted industrial flow of an industrial city – flowing through a long straight watercourse reminiscent of man-made agricultural canals. Reeds and sedges line its banks – signals of water purification to the initiated [Figure 7.77]. Further upstream, barrages in the stream bed and informal planting alter the image to that of a mountain stream. The watercourse does not meander however, nor does it narrow and widen as a natural watercourse does; it remains here too man-made [Figure 7.78].

**Rail Harp & Emscherhalle.** Beyond the watercourse, the imagery of the scheme switches to the sweeping weave of routes on former railway embankments. In labelling these lines 'promenades', the designers reference nineteenth-century urban typologies but, with most lengths devoid of paved profiles or flanking avenues of trees, their appearance bears no likeness to their namesake. Instead, a wide gravel path passes through low savannah-like vegetation, appearing for all intents and purposes

like the pathways in the peri-urban landscape of the modern industrial city [Figure 7.79]. Another image of this industrial city greets the visitor in of the ore storage and shunting yards east of the blast furnaces: a low steppe-like landscape with a skyline of gigantic gantry cranes in the background. A thin but variegated carpet of herbs and grasses covers a gravel-like surface; plainly a disused mineral storage area [Figure 7.80].

***Schachtgelande*** Across the other side of the park, a similar landscape can be found: a variegated steppe-like herb and grassland on a gravel-like surface, with successional savannah-like vegetation merging into successional woodland. While the industrial structures have gone the remnants of industry are still palpable: concrete footings, road outlines still visible in the grass, regular piles of rubble. In the woodland, trees grow between footings and dumped concrete blocks [Figure 7.81].

## 7.6 Discussion

As a concluding step, the ecdysis of design-as-composition praxis (elaborating or revising from the Delft method) is discussed, drawing on the cumulative findings of the various analytical steps. Where relevant, reference is also made to the earlier case study Parc de la Villette.

### 7.6.1 (Mindful) Mapping of the Territory

In the first instance, the Duisburg-Nord scheme resembles that of La Villette in its using of layering as a response to - among other things - (complex) site conditions. Developments leading up to Duisburg-Nord's designation (examined in the historical development of the territory) reveal the transformation of the park site over two centuries, in which the territory metamorphosed through industrialization and urbanization. By the time of its designation, the park site was an amorphous S-shaped area of land made up of piecemeal tracts of land either side of the Alte Emscher watercourse. As mosaic of abandoned mineshaft lands, defunct steelworks complex, shunting yards and sundry public and semi-public open spaces, the territorial coherence of the site was highly compromised, a situation comparable to the Parc de la Villette site.

In response however, the layered plan configuration at Duisburg-Nord focuses primarily on the 'syntax' of the industrial infrastructure of the site, as compared to the introduction of a new set of geometries intended to bring the heterogeneity of the territory together (as at Parc de la Villette). Indeed, extrapolating a 'plan figure' of Duisburg-Nord proved highly problematic; with geometries 'embedded' in existing schemas, there is essentially no new plan configuration to speak of. Critical in this observation is the relinquishing of a new and 'essential' topographic figure expressing the multiple underlying forms of the territory, as predicated by the Delft method (the reduction, rationalization and activation of the topographic *genius loci* from the amalgam of natural landscape (*topos*), overlying cultural landscape (*locus*) and urban landscape (*nodus*)).

Instead, a choice is made to focus on a particular layer (the industrial), and to do this in a mindful way. 'Close readings' of the territory were elaborated on in the series of drawings prepared for the competition. On the competition drawings, Latz' observed: "We never wanted to draw an overall plan

for Duisburg-Nord as the medium only shows one layer. As feared, the plan depicts the actual chaos, it can only be understood in abstraction".[262] These exploratory drawings resonate with emerging practises of mapping in design and planning. Corner (1999) notes the agency of mapping as a practise distinct to reductive and normative cartography and master-planning: 'the map functions as an operating table, a staging ground or a theatre of operations upon which the mapper collects, combines, connects, marks, masks, relates and generally explores".[263]
Critically, what emerges from this mindful diagramming is that the 'syntax' of industrial figures also embodies much of the earlier configurations of the territory, such as the natural alignment of the Alte Emscher river valley: most of the industrial infrastructure was aligned to the watercourse in some way or other [Figure 7.82].

### 7.6.2 Lay-outing at Multiple Scales

A second aspect emerging in the scheme is the manner in which the project addresses more than one scale in its layout. The assessment of the scheme as compositional procedure (basic form) reveals the role of defunct railway lines in the plan figure of both Duisburg-Nord and the larger Emscher Park [Figure 7.83]. These lines embody an industrial transportation schema based on subterranean geological formations of coal deposits and the technical parameters of rail modalities situated independently of settlement forms.[264]

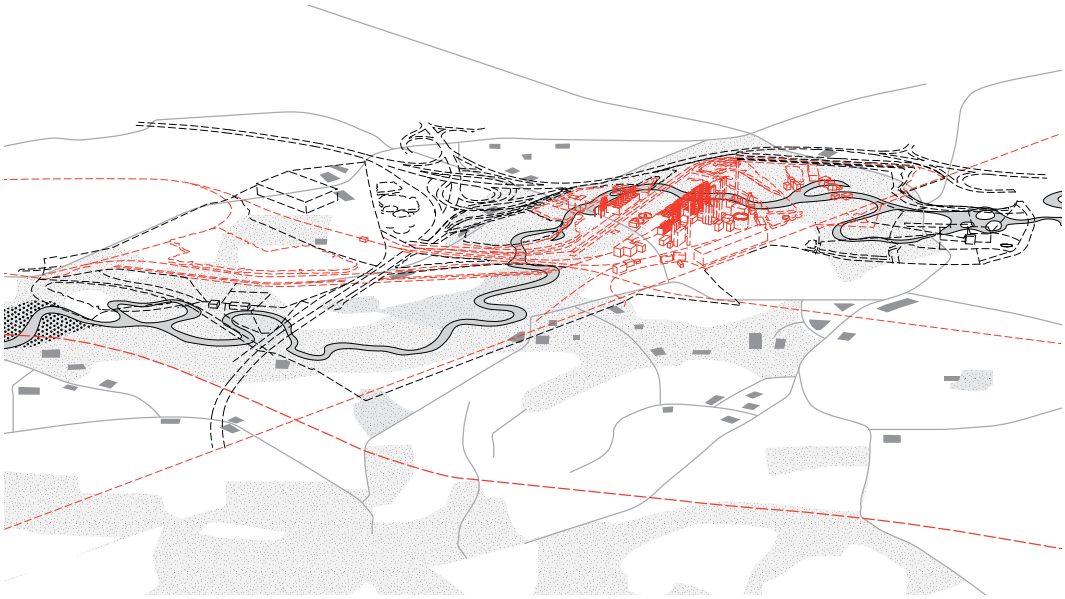


FIGURE 7.83 Overlay of plan configurations of the Duisburg-Nord site: 1830 & 1990. (Image: Jan Wilbers & Author).

262 Latz, 2016, p. 160.

263 Corner, 1999, p. 215.

264 With the exception of a few historical centres, the network of mineshafts and rail lines preceded the urbanization of the region.

Focussing in on Duisburg-Nord, the lines takes the form of a fan-like arrangement narrowing to a neck-shaped plateau - the Harfenpark – before fanning out again towards the steelworks and the shunting yards of the Emscherhalle area. No one figure takes precedence in this assemblage, characterized as it is by density and multiplicity of lines, clustered around the park area but not limited to its boundaries. This approach reveals an emerging problematique of the urban park: engaging with the urban context of the scheme and dealing with multiple scales in the design.

The territorial multiplicity of the site can also be extrapolated to its context, which in the course of industrialization developed into an amorphous patchwork of historic town centres, sprawling suburbs, industrial areas, and remnant natural and cultural landscapes, criss-crossed by infrastructure. Sieverts (2004) encapsulated the form of this territory and its associated problematique in the term *Zwischenstadt*, using the Ruhr area as a model for a new form of city which does not correspond to our ordinary idea of the compact city surrounded by an intact (Arcadian) landscape. His model envisages the development of a metropolitan region beyond traditional urban planning techniques, in which the city-countryside mosaic is a given. In this vision, the call to generate a new centrality in a district that was socially and economically divided led to a demand for connecting a previously inaccessible site to surrounding neighbourhoods. To address this - over and above the interpretation of existing lines – new geometries are introduced in the scheme. The plan form of the Ingenhammshof area for instance, responds to aspects of the underlying topography and cultural landscape layers in its layout: a web of lines emanating out from the central farmstead complex into the river valley. By engaging with the geometries of the urban context and arranging the territory in a manner responsive to surrounding urban tissue, plan figures of city and park merge into one.

### 7.6.3 Spatial Heterogeneity & Scale

As noted in the site observations, the park includes an enormous variety of spaces, such as the maze of sub-spaces, passages and subterranean voids of the steelworks complex, the sweeping ridges of the rail-bed promenades, the sunken corridors of the canal zone, and the shaded interiors of successional woodlands. In contrast to Parc de la Villette, the Duisburg-Nord scheme does not however, attempt to correct this spatial heterogeneity; whereas in the Paris scheme new spatial features were introduced to draw the disparate areas together into one entity, Duisburg-Nord avoids the introduction of an overriding formal schema. Indeed, the introduction of a range of promenades, cycleways, footpaths, catwalks and bridges, expands the way these environments can be experienced, and subsequently the heterogeneity of their experience.

Furthermore, as elaborated in the spatial form procedure, these spatialities can also be paired as sets of contrasts: from the dark subterranean bowels of the complex to the top of the blast furnace tower; from the domestic spaces of the enclosed bunker gardens to the vast open space of the crossing over the A59 motorway; from the static enclosure of the Piazza Metallica to the dynamic linearity of the canal; and from the steppe–like expanses of the Schachtgelande to the maze of fields in the Emstermannshof area. These contrasts question whether features as physically and conceptually distanced from each other as the Stadrandgarten and the Piazza Metallica still form part of one spatial composition, while the diverse mosaic of spaces beyond these features challenge this notion further. This problem forms a central issue for spatial composition on brownfield sites; the transformation of the park area by successive periods of urbanization and industrialization carved up this former river valley into distinctive and separate worlds, compromising the potential for developing any form of spatial coherence.



FIGURE 7.84 Landschaftspark Duisburg-Nord in the Emscher park network of public open spaces. (Drawing: Author, adapted from Masterplan Emscher Park 2010, Regionalverband Ruhr).

The shift from Parc de la Villette to Duisburg-Nord moreover, is also a shift from one scale of landscape space (55ha) to another (230ha). Critically, the size of the Duisburg-Nord site exceeds the boundaries of cognition and comprehension from a single standpoint; no individual is ever possibly cognizant of the form of the park from beginning to end. This once relatively flat river valley landscape was progressively altered to its current form, with the resultant landscape consisting of four primary spatial levels or 'realms': the lower level of the watercourse, the ground level spaces in the blast furnace complex and the Sinterplatz, the upper level of rail infrastructures and tailings heaps together with highway sound barriers and vegetated walls, and the lookout points in the top of the blast furnace and at three other points around the park [Figure 7.84]. It is these levels – more so than the park layers – which determine the spatiality of the project. The blast furnace and other lookout points in particular, play a critical role: views of the park, along with landmarks in the immediate surroundings and the horizon of the Ruhr area can only be had from these vantage points.

### 7.6.4 Visual Apprehension & Movement

The equivocality of the park as a homogenous spatial entity resonates with a critical aspect of landscape design emerging in the discourse: the spatiality of landscape. Corner (1992) notes how spatiality of landscape differs from other design modes in that it is non-objectified, surrounding us completely, and by being continuous and unlimited.[265] Perceiving spatiality in a (designed) landscape is thereby in the first instance relative to the visibility of features, i.e. how a designed landscape

265 Corner, 1992.

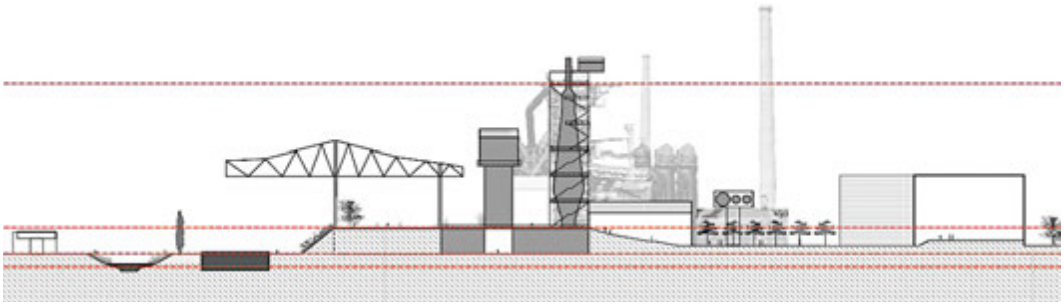


FIGURE 7.85 Spatial 'scales' in the park. (Drawing: Author).

appears to an observer from eye-level.[266] By extension, the emerging importance of visual perception in schemes such as Duisburg-Nord, elicits a discussion on alternative modes of landscape design praxis such as those engaging with the experience of the composition through movement. Critical to the visual apprehension of the spatial form of the park is the serial revelation of visual information as observers move through the park. As such, visual apprehension is directly related to the routes that accommodate movement.

During the site observations, we have been either free to wander over an extensive mosaic of gravel, tarmac and lawns, or otherwise guided through the park by the relict infrastructures of rail lines, conveyor belts and water flows. Movement has thus been an integral – if not essential - part of our experience of the park's diverse spatial environments. The foundation of this condition can be traced back to the design team's reading and writing of the site: from the design approach review the design team's reading of the site has been dominated by the linear forms of industrial infrastructure. This is backed up by the spatial form procedure assessment, which shows the density and centrality of lines in the scheme, indicating how an attempt was made to address the scale and heterogeneous spatiality of the site. At least three scales can be said to be addressed by this system of lines: the individual park areas, the mosaic of park areas together, and the parks and other public open spaces in the larger Emscher park system [Figure 7.85]. Implicit in this multiplicity of scales is the variations in the experience each visitors has of the project: while a visitor may apprehend certain areas of the park on a long-distance cycling tour, a local resident may experience an entirely different section of the park on foot, demonstrating the variety of individual 'configurations' possible from this multi-scalar ensemble. Moreover, the size and multiplicity of the territory also prohibits the visitor from envisioning the form and composition of the park from one position, elevating the motion experience to one the central importance.

### 7.6.5 Cognitive Perception & Kinaesthesia

The importance of movement in the scheme introduces the concept of kinaesthesia to the discussion. The initial site tour demonstrates that walking enables a compiling of the disparate areas of the park into a spatio-temporal ensemble, with the network of converted rail lines and waterway paths assuming a central role in enabling this compilation. The converted rail lines – and the kinaesthetic experience they generate – thereby emerge as key factors in the cognition of the territory at Duisburg-Nord.

266 Nijhuis, 2015.



FIGURE 7.86 Hierarchy of movement lines. (Drawing: Jan Wilbers).



FIGURE 7.87 Duisburg-Nord in the railway network of the Emscher valley. (Drawing: Author).

Kinaesthesia is also a factor at the scale of the Emscher Park. The translation of the rails lines create an organizational spine running east-west, connecting parks areas otherwise divided by distance and road infrastructures from each other, in particular the series of brownfields transformed to public open spaces elsewhere in the Emscher Park [Figure 7.86]. Many of the sites included in this network also incorporate defunct railway lines similar to Duisburg-Nord, generating a recurring linear pathway throughout the Emscher park system. The efficacy of this schema as a definitive geometry for the Emscher park is so striking that one could be forgiven for thinking this was the intention from the outset; the vast, interconnected green space framework now forms one of the largest urban park networks in the world.

As such, while no individual is ever completely cognizant of the form of the park from beginning to end, the territory is incrementally revealed through kinaesthetic experience. The 'kinaesthetic schema' at Duisburg-Nord can therefore be said to activate the (static) designed landscape scheme, and can even be said to be critically necessary for the scheme to be activated at all. In this the Duisburg-Nord scheme presents a critical shift in the design-as-composition framework explicated by the Delft method: that spatial form is not in itself sufficient to elaborate (designed) landscape space, it requires the explication of a kinaesthetic schema.

### 7.6.6 Drawing Kinaesthesia

A noteworthy competition drawing eluding to this shift is titled *Verknupfingselemente*, which although literally translated as 'connecting elements', diagrams where visual thresholds arise between disparate features in the park [Figure 7.87]. As such, it could also be titled 'kinaesthetic nodes' as it defines linkage points between one movement line and another. Despite its relatively puerility, the attempt to represent a 'kinaesthetic moment' in a static drawing is nonetheless a novel form of representation for this emerging thematic. New techniques of calibrating and visualizing spatial information are being used to develop this critical topic. Using GIS tools, Nijhuis (2015) developed a technique to analyse the light-shade experience from the main routes at Stourhead Landscape Garden. His analysis shows that the development of the composition in terms of light-shade follows a similar pattern as the visual form, but with important variations in the kinaesthetic structure brought about by alterations of the garden over two centuries.

### 7.6.7 Kinaesthesia and Place

To what degree the kinaesthetic 'schema' at Duisburg-Nord can be said to be successful or effective, can be discussed from the perspective of lived body and bodily space. In the literature, the focus of kinaesthetic experience is place and not space; as Husserl puts it: "place is realized through Kinaesthesia, in which the character of the place is optimally experienced."[267] Casey (1997) notes that places themselves "depend on the lived body as I-centre or null-point, the absolute centre' of any given perceptual sphere", and that "the absolute space posited by Newton as itself bodiless cannot be constituted or apprehended except by a body which in mobility is always here".[268] Casey also points out the critical distinction between the lived body and the physical body: for Galileo all bodies are regarded as merely physical bodies, a stance which overlooks the phenomenological aspect of the lived body in the physical world and its constitutive role in the life-world of human existence.[269] Critical to this distinction is Husserl's notion of intentionality - the way in which we describe and understand phenomena as experiences through human consciousness. The lived body thus engenders 'lived space' from absolute space. How this engendering takes place is primarily through movement.
Husserl (1931) singles out walking as critically instrumental in creating a coherent core-world out of fragments of environment; through walking, the disparate appearances of near-sphere and far-sphere are brought together into one unified spatio-temporal ensemble.[270] The 'linking-up' of lived body and bodily space via walking (leading to the generation of place from space) can be said to arise successfully in the blast furnace area, where the amorphous mosaic of hardscapes creates a surface enabling extensive and free movement through the complex on foot, encouraging the visitor to 'embody' this monumental and formerly off-limits environment. Berrizbeitia (2007) notes that the park "feels less like something with a cohesive identity and more like a free zone, an ambiguous territory for roaming around in search of events, encounters, and visual experiences."[271] This experience is heightened by the introduction of new access points and movement lines within the machinery itself. Being able to move through, up and over the steelworks allows the visitor to discover and colonize this alien landscape.

On this, Rosenberg (2009) remarks how the bodily experience of being inside the machinery of steel production at Duisburg-Nord alters our relationship to it, transforming a monumental object once perceived from a distance, to a familiar environment we can bodily occupy. Sensations such as 'being within', 'going up', and 'towering over' expand this bodily experience. In this way the scheme not only enables bodily motion, it also makes us acutely aware of our own corporeal progression through the world by demanding cognitive coordination and muscular exertion. Herein lies a critical argument for kinaesthesia as a distinctive and separate operation in landscape design-as-composition praxis. The physical form of the territory does not 'constitute' space or 'embody' place in and of itself, it is only our individual construction of it that establishes lived space and meaningful place. In this sense the deliberate (integration of) kinaesthesia can be said to be indispensible in the 'enabling' of place out of a formal composition. Extending this rationale further, all design schemas – even those appearing 'dynamic' (such as the picturesque), require a kinaesthetic dimension to endow them with a dynamic spatiality.

267 Der Ort ist verwiklicht durch die Kinåesthese, in der das Was des Ortes optimal erfahren ist" (cited from a manuscript from 1932 in Claesges, Edmund Husserl's Theorie, p. 82).

268 Casey 1997, p. 220.

269 ibid.

270 In a manuscript of 1931 (cited in Claesges, Edmund Husserls Theorie, 83, n. 2).

271 Berrizbeitia, 2007, p. 183.

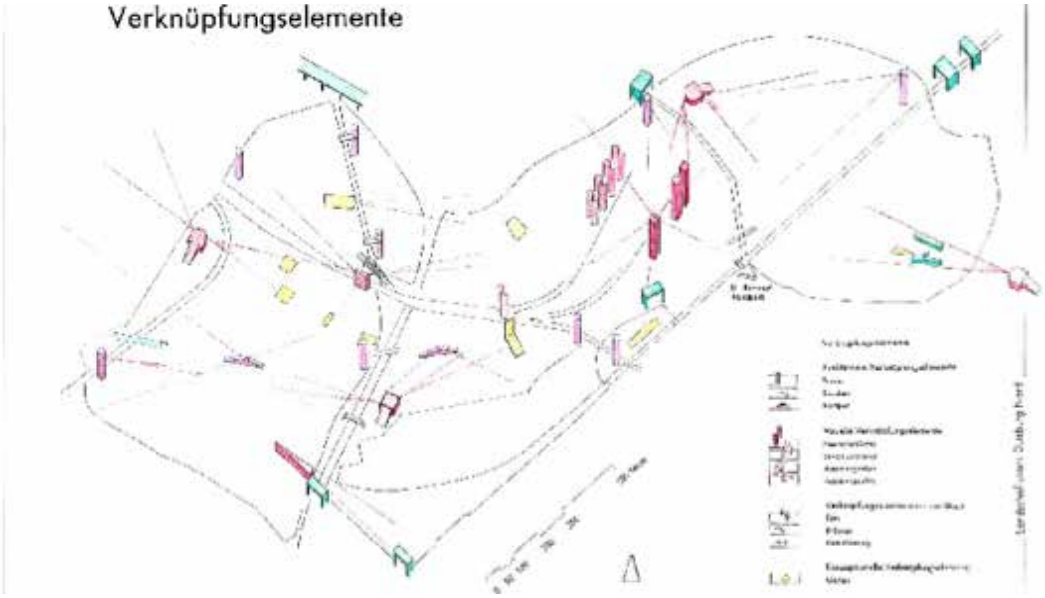



FIGURE 7.88 Competition submission drawing 1991: Verknupfungselemente. Connecting elements. (Image source: Latz+Partner, Landschafsarchitekten).

## 7.6.8 Synaesthesia

As much as the Duisburg-Nord scheme elaborates how a kinaesthetic environment is one that demands the 'gathering of ourselves together' to negotiate a (designed) landscape, kinaesthetic perception is also a product of the sensory stimuli that our body receives as we move through the territory. In this regard, Landschaftspark Duisburg-Nord is also replete with sensorial phenomena: the tactility of decaying industrial structures, the moist subterranean world of the bunkers, the windy heights of blast furnace five, the moist environment of the waterway, the aromatic interiors of successional woodlands, and the sounds and smells of the many different gardens. This phenomenon emerges in the design approach and reception review, whereby the design team's particular translation of the materiality of the site is noted. Rosenberg (2009) observes how "the overpowering image of the ironworks perceived from afar, and all that it suggests as an icon of sublime immensity, is challenged at the moment we engage it physically and experience it as occupiable space".[272]

This thematic also presents itself during our site tour, with the opening up of stairs and walkways in the blast furnace tower and the cutting of openings into the walls of the bunker complex allowing not only a traversing of these previously off-limits environments, but also a sensorial 'immersion' in them, such as the feel of the hulking steel forms underfoot and the tactility of rusting metal in our fingertips. Passages beneath the structures and through the bunkers generate similar corporeal sensations, with the smell of rusting iron and vegetation pervading the senses [Figure 7.88]. The various gardens also generate powerful sensorial stimuli: the aroma of blossoms, the visual intensity of light and dark, the humidity of vegetative microclimates and the sound of leaves rustling in the wind. Our passage through these places is thus not just a visual perception of the environment but also a

272 Rosenberg, 2002, p. 220.

bodily experience of the site, transforming our relationship to it. Passage through the park is thus an accumulation of bodily sensations, complementing the kinaesthetic perception of the territory. As Corner (1992) contends, the materiality of landscape is best understood through tactile and bodily perception, as distinct from secondary deduction.[273]

The manner in which the sensorial is articulated in the scheme forefronts the elaboration of the materiality of the landscape project as distinct from other design disciplines.[274] By extension, little of the materiality of the site and the integration of the sensorial have emerged from the compositional procedure assessment (spatial form), inferring that the sensorial falls largely outside the agency of the Delft framework.

### 7.6.9 A Didactic Landscape

In a deeper sense, this didactic approach also resonates with emerging discourses on conceptions of landscape differing to those of 'scenery' or 'resource'. As noted in Chapter 2, Corner (1999) draws attention to two different understandings of landscape, one being 'landscape as objectified scene' (outsider landscape) and the other a 'working country as habituated place' (Insider landscape).[275] In recovering the industrial landscape machinery of production and transforming it into a machinery of recreational consumption and social interaction, Duisburg-Nord resonates strongly with the 'insider' view of landscape. An insider view of landscape presents a radical recalibration of a landscape design praxis grounded in the architectural tradition. If we contend that park design was until now by and large concerned with objectified form – and thus correlating to 'landscape as objectified scene' – then new forms of praxis such as emerging at Duisburg-Nord proceed from a fundamentally opposing direction, questioning the notion of appearances altogether. More contentiously, we may content that the 'landscape as objectified scene' is claimed to be critically unsuitable as approach in re-engaging sites as meaningful loci. Implicit in this stance is, a shift from an aesthetic of contrived representations of landscape, to a comprehension of the processes at work behind *this* landscape.

This shift was also noted by Berrizbeitia (1999) in a much earlier scheme - the design for Amsterdam Bos Park by Van Eesteren & Mulder. Berrizbeitia concluded that the Bos Park represented a departure from the pictorial tradition whereby the artistic logic and meaning of the scheme was generated by a 'working method', as opposed to a mimetic representation of a previously understood reality.[276] This

273 Corner, 1992.

274 How the sensorial is specifically developed and applied in the Duisburg-Nord scheme however, remains somewhat ambiguous. Sensorial stimuli pervade much of site, but in different and contrasting ways as compared to the localized articulation of the sensorial in the theme gardens at Parc de la Villette. In explaining the approach, the articulation of site-specificity as a reading and writing of the territory provides some clues: through a reading of the dynamic (practises) and immaterial aspects (atmospheres) of the site, a sensorial approach can be said to articulate a new and particular form of the 'place' of the site at Duisburg-Nord. Back-grounding the technical and economic considerations of material choices in park design are (the sensorial aspects of) the 'stuff' of landscape: surface material, plants, water and elements. The choices made at Duisburg-Nord however, seem to be largely driven by the materiality of the existing; indeed, with the exception of the planting schemes in the various gardens, the substance of the park is by and large a refection of the materiality of the territory 'as found'. The only real new material exploration can be found in the Stadtrandgarten and the steel plates laid out in the Piazza Metallica.

275 Corner, 1999, p. 11.

276 Berrizbeitia, 1999.



FIGURE 7.89 Path from Cowperplatz. (Photo: Author).

working method came about through a system of operations informed by analysis (hydrology, forestry & social sciences) together with concrete goals (reclamation, shelter, recreation). Together with the technical parameters of construction on this difficult site, meaning was relocated from object-as-representation to object-as-system-of-production.[277] Rosenberg (2009) argues that the same is true for Duisburg-Nord, tendering that the scheme "avoids trading in the imagery of the picturesque ruins, so too does it argue against an aesthetic of the sublime".[278] She maintains that the scheme contrasted to commonplace approaches dealing with remnant structures in park design which were dominated by a praxis of either the 'romantic ruins' or 'sublime spectacle', the former involving an aestheticizing of features within a picturesque composition, the latter an amplification of characteristics intended to instil a mixed sense of wonder and terror.[279] Presented with the immense landscape of furnaces, chimneys and other structures, the design team chose instead to simply reveal the workings of this complex to the visitor, thus reflecting the aesthetic of a 'working method' similar to the Bos Park. The working method however, is one of industrial production already existing on the site and as such in fact constitutes a reversal of the procedure at the Bos Park [Figure 7.89].

277 Ibid.

278 Rosenberg, 2009, p. 210.

279 Ibid.

### 7.6.10 (The Image of) Nature as a State of Flux

Compared to the neutral matrix of woodlands, lawns, water in the Bos Park, Duisburg-Nord's 'production image' is that of unnatural technological landscape. Rosenberg (2009) postulates that if the pastoral aesthetic of the nineteenth century park expressed our problematic relationship to industrialization, the process of de-industrialization may be expected to bring about a new landscape aesthetic, which would also re-imagine our new relationship to technology, nature and landscape.[280]

This thematic plainly also occupied the design team: the notion of landscape as agency was not only effected (retrospectively) in the decoding of the plant's formative processes, but also, more critically, informed the appearance of nature in the park. The image of large parts of the park correlates with images of disturbed environments: not only in the decaying structures of the steelworks, but also the large areas of successional birch woodland colonizing tailings mounds and the communities of exotic shrubs and perennials populating slag heaps and coal-soot sediments. These images are not only unromantic, even to the untrained eye they have the appearance of aberrant environments.

The aesthetic message here is the product of three 'mental leaps' in the elaboration of a new conception of the relationship between man and nature. The first leap is the acceptance of a situation in which man has interfered with nature. Rosenberg (2009) reads into the project's imagery "the abandonment of the idea of an idealized nature separated from man" based on a stance of "living with contradictions in a fragmentary world."[281] There indeed emerges in the scheme a new aesthetic of post-industrialization that is different from that of industrialization as Rosenberg's postulates: gone are the sublime depictions of a wilderness untouched by man; gone too, are the Arcadian scenes of a pre-industrial cultivated nature.

The second mental leap leads on from the first: realization that the 'polluted' ground of industry might also have a positive – albeit unconventional - effect on nature. Latz notes that forty percent of the 250 species found on the site were neophytes, brought to the site from all over the world by industrial activity, presenting a variety that could not be had from indigenous vegetation.[282] In acknowledging this condition Latz highlights the evidence in these vegetative communities of an interrelationship between man and nature that is not *all bad news*. Indeed, the conviction that industrial and urbanized environments are only detrimental to ecological objectives such as biodiversity is - at least in the European context – increasingly challenged: biodiversity in European cities in many instances now exceeds that of most non-urban territories.[283]

More fundamentally, this approach resonates with an emerging paradigm shift in ecosystem theory. Whereas conventional theory held that ecosystems were stable equilibriums in which human influence was seen as separate and having a negative impact, recent insights propose that communities and ecosystems are in fact dynamic and changing.[284] This dynamism comes about through constant exposure to varying degrees of physical disruption, propositioning disturbance

280 Ibid.

281 Ibid, p. 216.

282 Latz, in Knuijt et. al, 1993.

283 Gilbert, 2005.

284 Pickett, Parker and Fiedler,1992.



FIGURE 7.90 Ruderal vegetation on the Duisburg-Nord site. (Photo: Author).

and flux as a frequent and intrinsic characteristic of ecosystems.[285] As a central source of this state of flux, human culture thus shifts from being a negative force that undermines the balanced, stable equilibrium of mature and healthy system, to an essential or given part of ecological systems. The new paradigm challenges any clear distinction between culture and nature, recognizing the influence of human culture on natural systems and the impact of cultural practices such as the burning of fossil fuel, the release of ozone-destroying gases, and the introduction of alien species.

The third mental leap thus moves towards a new synthesis of technology, nature and landscape in which interaction between man and nature is a given. If natural processes are seen to be interwoven with the technologies that create and maintain them, nature cannot be thought of as pristine or autonomous.[286] Not only is the notion of 'wilderness' made thereby redundant by this concept, the healing of brownfield sites with pastoral scenes (based on a romantic ideal of the healing property of nature) is also rendered superfluous. The fantastical shapes of the iron plates in the Piazza Metallica quintesentially express this stance, a merging of natural and cultural forces that is unsettling but somehow also familiar [Figure 7.90]. Ironically then, the very industrial environments that drove the nineteenth century romantics to cultivate depictions of wilderness and the pastoral in parks have become the setting for their eventual jettisoning.

### 7.6.11 Third Nature

In relinquishing the depiction of nature as wilderness or pastoral motif, disturbance becomes the definitive representation of nature for the urban park. This aesthetic resonates strongly with the 'third nature' of the garden. Representations based on depictions of first nature (wilderness) and second nature (pastoral) such as seen re-emerging at La Villette, are thereby replaced by the 'making

285 Cook, 2000.

286 Rosenberg, 2009.

of' nature as opposed to 'healing with' nature. What takes place at Duisburg-Nord on a grand scale in the 'making of' successional woodland on tailings mounds for instance, we see played out in miniature in the Stadrandgarten. These plots articulate and represent the praxis of gardening as a dialogue with a strange landscape, exploring and comprehending it. Gardens in the scheme play on the theme of disturbance, showcasing the beauty of volunteer plants on toxic plots and symbolising the idea of garden as a place of experimentation, intended not as a work of art but as a game between the gardener and natural processes. The trope of garden is also used to depict an aesthetic of human nature, with gardens made up of simple domestic plantings reflecting local horticultural traditions, as well as 'artistic' gardens with formal plantings mimicking gentrified tropes. Rosenberg (2009) contends that in opposition to the divine and infinite sphere of the (timeless) wilderness, the cultivated garden reflects "earthly" practises bound up in the human condition such as food production, shelter, growth and decay.[287] This reflection is taken as a universal given in the scheme; each one of us assumed to recognize this fact when we set eyes on these familiar tropes. In resisting a treatment of the complex as a post-industrial wilderness, the designers insert these familiar, human-scale environments to ameliorate and reframe an unfamiliar industrial landscape.

### 7.6.12 A Semantic of the Everyday

As a form of site-specific 'writing' (translation) the garden trope represents a form of translation focussing on domestication, with the universality and familiarity of the cultivated garden subsuming an unfamiliar environment into our collective unconscious. By apprehending the everyday garden in curious locations across the site, we are conditioned to eventually accepting it too as an everyday environment. This domestification of the territory extends to the incorporation of allotment complexes in and around the complex. Here it is the gardener himself who takes up a position in the scheme, signifying the individual as cultivator of the earth, and as counter to the culture of the collective and of mass-production in the industrial city. As such it reflects a reversal of the demise of the garden from arts and design discourse during the Modernist era. In his lament of the demise of the relationship between the garden(er) and the intellectual realm of society, Komrij (1990) highlighted the role of the man-as-gardener myth as one which also begets responsiblity and stewardship of the world. De Jong (2007) attributes the dissapearance of the art of the garden from discourse to the aversion of Modernism for the gardens subjectivety and indvidualism. The active engagement of the garden in transformation praxis at both Duisburg-Nord and at La Villette is thus instrumental in reversing this trend.

### 7.6.13 Urban by Nature

With the introduction of 'squares' (Cowperplatz, Piazza Metallica) and 'streets' (Giesshallenstrasse) the scheme also imports urban images into the park. Though lacking the functional and visual characteristics of traditional urban typologies, patterns of use in these spaces suggest a successful evocation of these settings, and resonating with the approach as Parc de la Villette. But the scheme makes use of urban imagery in a fundamentally different manner than in Paris (and in so doing

287 Rosenberg, 2009, p. 227.



FIGURE 7.91 Iron Plate Floorscape, Piazza Metallica. (Photo: Author).

clarifies much of what is going on in Tschumi's scheme).[288] Having freed itself from the onus of repairing industrial woes and representing a sublime or pastoral nature, the aesthetic at Duisburg-Nord uses the garden (trope) to explain the disturbance aesthetic and familiarize us with this strange place [Figure 7.91]. As such, having resolved the problem of the distinction between man and nature, the city too becomes subsumed into the trope of 'nature', and thus can be freely incorporated into the (image of the) park. Quintessentially urban features as the street and the square are thereby not anymore 'inappropriate' to the park. In this way the Duisburg-Nord scheme introduces a fundamental new integration of city and park, to the point where the two may be said to dissolve into one another.

### 7.6.14 From History to Temporality

A further discussion on the imagery used at Landschaftspark Duisburg-Nord focuses on the retention of the steelworks and its associated landscapes. In the first instance, retaining the unusual and dramatic forms of the smelter complex gives meaning to the park by preserving icons of a bygone industrial age for generations of steelworkers in the Ruhr region. This factor is implicit in the photographs of industrial structures by Bernd and Hilla Becher [Figure 7.92]. The Bechers presented these (historical) industrial forms as objective 'documents', stripped of political sub-texts or sentimentality. Hargreaves (2007) however, questions this kind of interpretation, given the problematic history of the Thyssen steelworks during the world wars as producer of munitions and armaments, and the indenturing of Jewish workers.[289]

288 The image types used in the Parisian scheme - galeries, allées and folies – were ostensibly drawn from the city, but were shown to have their true origins in the garden, and brought to the park via the city. Thus, in drawing from the classical garden tradition, Parc de la Villette can be said to still make use of mimetic representations of nature in projecting a nature–without-man image onto the park.

289 Hargreaves, 2007.

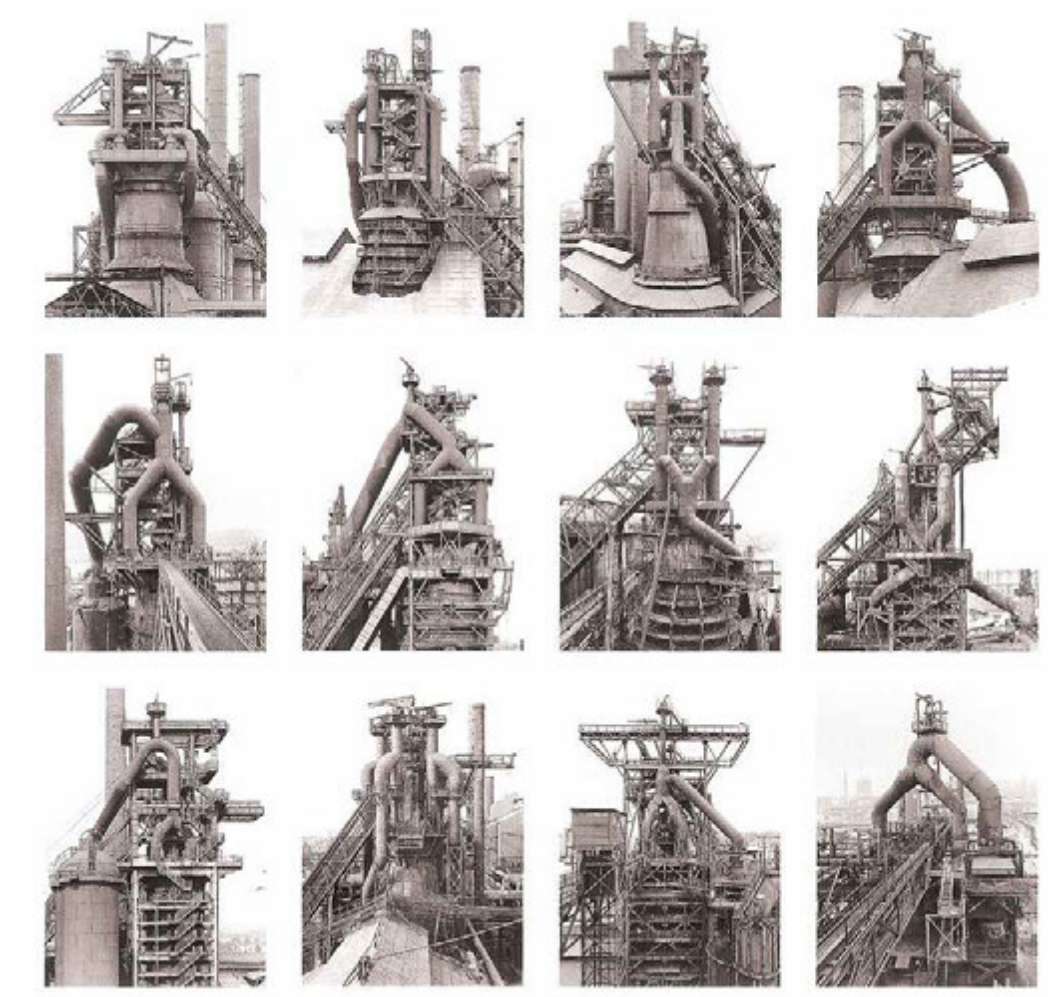


FIGURE 7.92 Blast Furnaces # 3, Bernd & Hilla Becher. (Photos: Bernd & Hilla Becher).

The meaning of (the retention of) industrial monuments at Duisburg-Nord are alternatively elaborated by Keulartz (2015), using Nietzsche's On the Use and Abuse of History for Life. He contends that the Duisburg-Nord scheme engages three historical approaches simultaneously: (1) the retention of many of the structures as an antiquarian view of history inviting the visitor to relive and experience history as authentically as possible (Nietzsche's museification of the past); (2) the reprogramming of buildings and structures with new contemporary uses (reflecting Nietzsche's monumental approach, whereby heroic and inspirational historical forms are singled out as motifs for future development); (3) as Nietzsche's critical history, involving a shattering and dissolving of the past "by dragging history to the bar of judgment, interrogating it meticulously and finally condemning it", and in the process generating new knowledge, which can be used to "implant a new habit, a new instinct, a second nature so that the first nature withers away".[290] The overtaking of the site by spontaneous vegetation, a process unravelled and accelerated in the design scheme, is to Keulartz an example of a critical historical approach. This analysis underlines the premise of transformation praxis in reading previous iteration(s) of site, wherby the addressing of history moves to a central position in giving 'meaning' to the park.

290 Keulartz, 2015, p. 30.

The multiplicity of historical positions read into the project by Keulartz however, signals a more operative intention of the scheme. In the first instance, the three positions noted by Keulartz are underlined by the image form analysis, in which the visual language used in the park is shown to be multivalent and open to various interpretations. Statements by the designers iterate this point: Latz (1993) stated that the design team intended to give a new meaning to the term 'historical park' as something that starts now but goes forward as well as backward.[291] Similarly, Rosenberg (2009) contends that in the treatment of this chaotic landscape there is little to distinguish between old and new, leading to an ambiguity which gives meaning to the park through the relics transcending their own history and opening up to the future. As such, Duisburg-Nord introduces a radical alternative to abiding practises in 'heritage design' (focusing on elaborating site histories in the custom of Keulartz' analysis) by in fact focusing primarily on the explication of temporality.

### 7.6.15 From Representation to Reception

Insofar as the 'streets' and 'squares' of the blast furnace area are not functional urban typologies, they remain representations of the city – not the city itself – and as such still qualify the park as a mimetic environment. Moreover, the blast furnace complex can be said to be conceived as a metaphorical world open to multiple interpretations: as much as it can be read as an urban compound or citadel - complete with its own squares, streets and passageways - it may also conjure up images of a 'mountain range' of fantastical topography [Figure 7.93]. The inherent multiplicity of these images suggests not so much an attention to an intended meaning, but a focus on how visitors attach meaning to physical environments. Within the frame of Reception Theory, the ambiguity of what is index, icon or symbol in the park suggests that lending meaning to the park is left almost entirely up to the beholder; not in the sense that it is overlooked, but in the sense that it deliberately draws on the imaginative and associative powers of the visitor. This approach resonates with the theatrical tradition within garden design. Referencing the theatrical metaphor in which the visitor builds a specific experience prescribed by the designer, Hunt (2004) notes the visitor's involvement as actor/spectator and the creation of a virtual realm in which the visitor may also assume character roles.[292] He goes on to contend "one of landscape architecture's least explored qualities is its ability to build this 'virtual reality' through the combination of the experience of a physical reality with a deliberate creation of fictive worlds into whose mythological or metaphorical languages we allow ourselves to be drawn".[293] From this perspective the role of semantics in the Duisburg-Nord scheme may be said to engage a new form of representation switching from *producing* meaningful signs to *generating* meaning by evoking multiple (virtual) realities with compound narratives in which the park visitor may play an active (character) role. In the frame of the environmental experience (of the composition), these virtual realities emerge as the key interpretative and evaluative aspects of perception.

291 Latz, 1993, p. 95.

292 Hunt, 2004.

293 Ibid, p. 38.

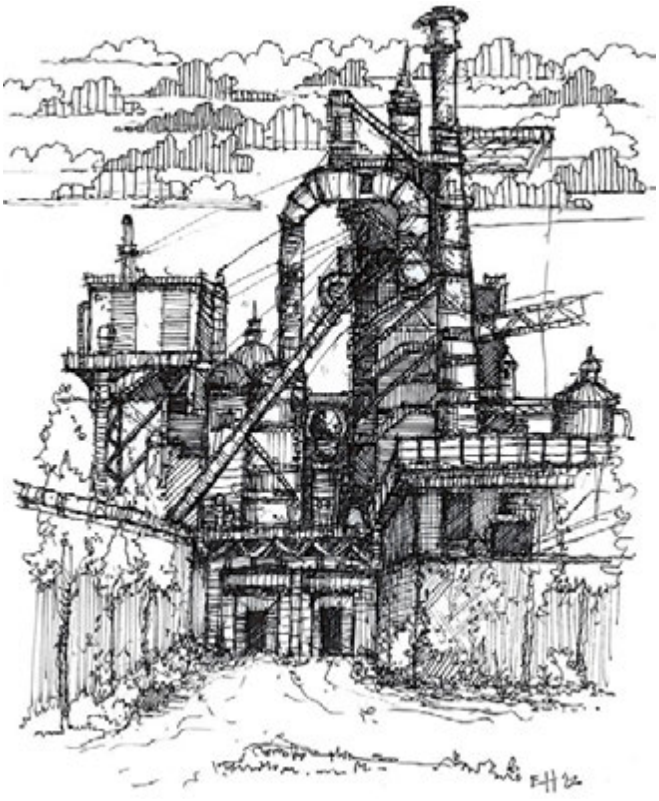


FIGURE 7.93 Interpretive sketch of the Blast Furnace. (Image: Erick Huck).

### 7.6.16 Programme & Site

Parallel to the discussion on Parc de la Villette, the subject of program(ming) at Duisburg-Nord also informs a developing revision of the ecdysis of landscape architecture as compositional praxis. As revealed in the review of the programme form of the scheme, a large number of social and cultural programmes are realised in and around the redundant industrial skeleton: from promenades and cycle-ways, to sports & recreation areas, and from social gathering places to events areas and hospitality facilities. The range and combinations of programmes at Duisburg-Nord is unique for the area, generating a new functional centrality in the larger (sub)urban context. In the overview of key amenities and facilities, the combination of programmes in and around the blast furnace (such as cafe, restaurant and kiosks, facilities for extreme sports and a programme of indoors and outdoor events) form a mix and density of programmes approximating that of a cultural quarter, positing the park as a civic centre drawing visitors from the larger metropolitan region, and at certain moments in the year national and international visitors. This situation is confirmed by a survey of visitor numbers taken a decade after the park's opening: Winkels (2009) established that around 700,000 people visit the park each year.[294]

Mirroring developments at Parc de la Villette, the possibilities envisaged by the park commissioners and designers for this brownfield were informed by the characteristics of the site, a miscellany of

294 These figures also likely exceed the 'catchment' of surrounding neighbourhoods, which if included would indicate a much larger number of park users.

extraordinary buildings and structures able to be converted into all kinds of new and imaginative uses. An important sub-text to this vision is economic return to help maintain the park, and the provision of job opportunities for an economically impoverished district. Critically however, accommodating and configuring this programme did not form a deciding factor in the design-technical elaboration of the scheme as it did at La Villette. No analysis was made of the programme, nor was there any specific strategy to divide the programme across different layers to accommodate the programmatic demands of a brief. This omission challenges the demarcation of a separate programmatic dimension to landscape design, as formulated in the Delft method. As procedure then, the conclusion from the programme form assessment is a plan driven by a judicious (and creative) matching of programmes to site conditions, as opposed to the introduction of a pre-determined programme schema of Parc de la Villette. Site features such as the klettergarten and derelict train lines can thereby be said to beget certain functions in and of themselves; the designers role then is merely to discover which programmes 'the site invites'.

### 7.6.17 Open 'Ground-scape' and the Public Realm

Continuing the thematic of the social initiated at Parc de la Villette, the particular capacity of the scheme to accommodate and engender social interaction is a noteworthy aspect of programme as (compositional) procedure. The avoidance of a path network and the retention of the existing mosaic of hardscapes in and around the blast furnace complex noted in site visits, generate an open ground-scape with little or no prescriptive form. Rosenberg (2009) reads this 'open ground-scape' strategy as a technique to reframe the complex as familiar environment by dissolving the boundaries between the space of domesticity and industrial production. The visitor indeed finds themselves in environment throughout the park where little has been fixed, encouraging improvisation and exploration [Figure 7.94].

The deliberate ambiguity of this ground-scape invites a 'colonization' of the complex by informal and cyclical patterns of occupation. This approach resonates with Tschumi's focus on orchestrating social processes through the interaction of conflicting programmes in space and time. As such we can note a furtherance of innovation to the Delft method at Duisburg-Nord intensifying the mandate and instrumentation of social design in landscape architecture.

In urban sociology theory, the open ground-scape at Duisburg-Nord can also be described in terms of universality, neutrality and plurality, terms correlating with the concept of the ideal public realm. Tiesdell & Oc (1998) identify four desirable qualities of the public realm: (1) universal access; (2) neutral territory; (3) inclusive and pluralistic; (4) symbolic and representative of the collective. These qualities relate to a key function of the public realm as a locus for socio-political activities essential for democratic citizenship. Insofar as the open ground-scape facilitates these kinds of activities, what may appear an innocuous (and to some even 'poorly-designed') environment, in fact engenders the hardware for a unitary public realm.[295] The unitary public realm extends a pattern we also have seen emerging at Parc de la Villette, in which social encounters are orchestrated through *di*slocation – although at Duisburg-Nord the encounters are not orchestrated but 'given space' to happen. Social encounters in this environment are unplanned and undefined; they can occur almost anywhere, and at any moment - or not at all.

295 Unitary in this frame is presented as open-ended and undefined, in contrast to the zoned and programmed schemas of the Modernist park, grounded as it was/is in the functionalist tradition. Here then is a resolute rejoinder to the Volkspark dogma, and a return to holistic notions of public realm design of nineteenth-century municipal parks designers.

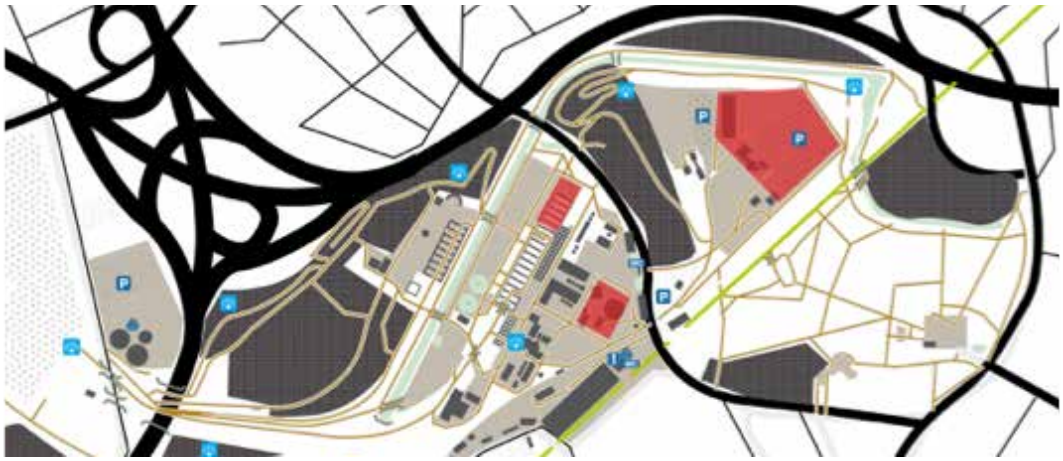


FIGURE 7.94 Open ground-scape zones (tan-coloured). (Drawing: Author).

### 7.6.18 'First', 'Second' and 'Third' Place

While much of the park is treated as open ground-scape, at the same time other parts of the complex are distinctly less neutral and pluralistic, such as the rock-climbing area in the ore bunker, the Gasometer scuba diving tank and events spaces in the blower house and power station. These settings are not intended for general use, but for specific groups of like-minded individuals or paying users – facilities normally a-typical of park environments. While these spaces reflect the financial and employment model of other IBA Emscher initiatives, they also resonate with emerging constructivist interpretations of the contemporary public realm. Various scholars recognize a series of overlapping kinds of public realms obliging different socio-economic, gender and ethnic groups.[296] Banerjee (2001) observed that American public life increasingly takes place in informal settings such as coffee shops, book stores and health clubs. Building on this observation, Oldenburg (1998) coined the term 'third place' to describe these settings, noting that informal public life arose in the "...great variety of public places that host the regular, voluntary, informal, and happily anticipated gatherings of individuals beyond the realm of home and work".[297] Given the common conditions of brownfield site such as Duisburg-Nord (a stock of remnant buildings and derelict spaces to locate semi-public and commercial space) transformation praxis indirectly informs the elaboration of third place as a part of urban park design.

The notion of third place resonates with other theories of social spaces by Lofland (1998), who makes a distinction between public and parochial places, defining the latter as spaces dominated by distinctive groups of like-minded individuals (and as valid components of contemporary urban societies). Extending the nomenclature of Oldenburg's third place theory, these settings may be called 'second places' and the open ground-scape areas 'first places'. A provisional mapping of the three 'places' reveals a mosaic of overlapping domains in the scheme [Figure 7.95]. First place is the base matrix of interconnected surfaces around the central steelworks area, Interspersed in the matrix are patches of second places (bunker gardens) and third places (foundry, Gasometer, blower house and power station). Zooming out to the scale of the whole park, we can indicate a zoning of first and second

296 Boyer, 1993; Sandercock, 1997, Featherstone, 1998.

297 Oldenburg, 1998, p. 16.

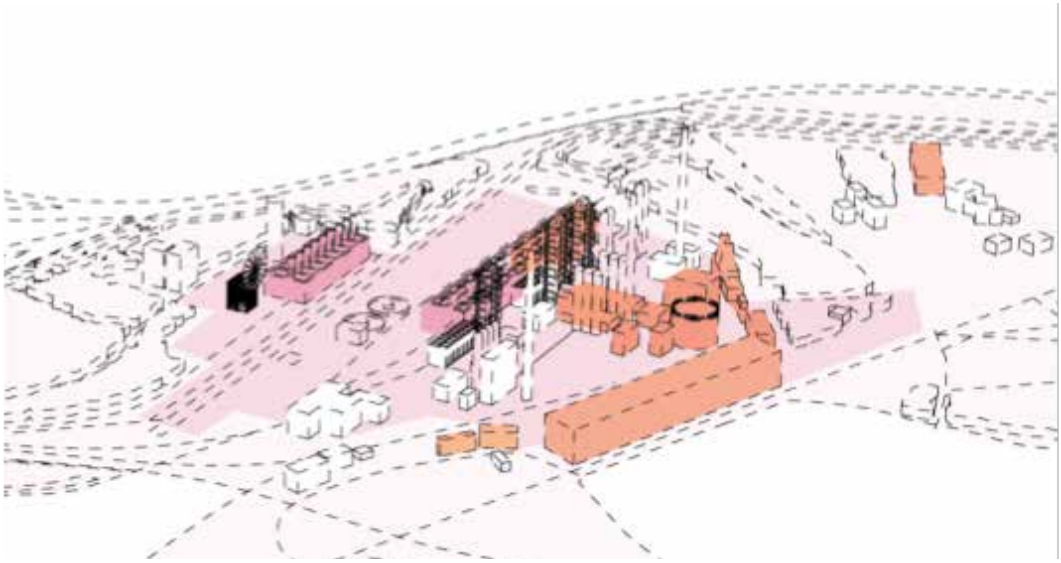


FIGURE 7.95 First, Second & Third Space zones in the central park area (Drawing: Author).

places and between them a network of connections. Beyond the particularities of the steelworks in this configuration, this schema presents a potentially valuable new model for the elaboration of the social in designed landscape projects.[298]

## 7.6.19 Embodying Processes

Comparing the Duisburg-Nord and Paris schemes further, a more fundamental shift can be noted in relation to programming as procedure in compositional praxis, in the working with systems and processes. On this topic we have noted that at La Villette the attention to processes is limited to the social, with little or no reference to geomorphological, hydrological and biotic systems underlying the park, or the temporal processes of growth and seasonality. At Duisburg-Nord however, we can contend that the Latz team acknowledged and worked with the systems and processes that formed the site, albeit the processes of industrialization such as coal-mining, ore transportation and steel production. In the programme form review access and circulation in the park is shown to make extensive use of defunct infrastructures, converting former rail lines to public thoroughfares. These lines were not only intended as circulation routes connecting up different parts of the park however, they were also seen as part of a network of routes linking up to the larger Emscher valley park system. Additionally however, the team also engaged the water flows and vegetation systems, with the industrialized waterway (Alte Emscher) given a new role as a flood control system and filtration device, while its banks become a new promenade running the length of the watercourse. The landscape 'syntax' concept thus draws attention to the systems and flows that have formed the territory, expanding park design from an engagement with landscape as a formal construct (garden) to working with landscape as multi-scalar area (territory).

298 In respect to the La Villette scheme we can note a shift from a highly formal approach in Paris to infrastructures for activities and events in less-defined zones across the park in Duisburg. In this way, the Latz scheme puts forward a less static vision of designing for the social, with (a little more) room for changes in the use of the park in response to shifting demographics and emerging cultural practises.

Framed in the context of the Emscher Park, these translations can be seen to address the bio-physical and urban-infrastructural systems of both the project and the larger urban region. Lines of industrial transportation become synchronic schemas elaborating on-site systems and the territory. Burying the polluted water of the Alte Emscher underground and maintaining an open clean water stream above it, allows relatively clean surface water runoff collected from the surrounding area to be purified by means of helophytic plants. This approach was informed by the comprehension of the watershed of the territory (much larger than the site) and the flow of water into the system, with the form of the stream, its flow capacity and cleansing method as outcomes. Although not included in the scheme, a similar approach can theoretically include systems such as biota, food, waste and air.

The reading and writing of the Duisburg-Nord site as a 'syntax' of (industrial) systems offers a conceptual basis for addressing systemic aspects such as connectivity and hydrology *by design*, and as such may be said to adhere to the adagio 'if the process is right, the design solution will also be right'. Critically however, the syntax approach represents a synergy of process and form by giving shape to the various flow systems within and beyond the park. Exemplary for this approach is the handling of surface water run-off from the steelworks plant area, which is collected in basins and channelled into the canal via a series of features that slow down the water and in places let it seep underground [Figure 7.96]. Hydrological processes are thus 'clotted' as it were, into physical form. In this sense a distinction can be made between a *process-based* praxis and a *systemic* praxis, whereby the latter pays attention to the form of the flows in a particular location in a concept we may call embodied processes.[299]



FIGURE 7.96 Drainage detail in the central park area (Photo: Author).

299 The notion of embodied processes is not necessarily new however; we can go back to the Boston Park system realized between 1878 and 1895, which addressed flooding and drainage design as well as connecting neighbourhoods and localities together. Here we see natural and cultural processes 'clotting' into formal schemas. As compared to the Emerald Necklace however, where a new formal schema was introduced onto the site with a distinctive stylistic form, the Duisburg-Nord scheme can be characterized as a heterogeneous assemblage of spaces and forms. These forms are not only highly diverse, the relationship between them is tenuous or even non-existing, a factor further exasperated by the distances separating them; the various systems derived from site characteristics at Duisburg-Nord form a cohesive compositional entity only insofar as they reflect the configurations of (former) industrial production.

# 8 Case The High Line

## 8.1 Introduction

The conversion of the remaining stretch of elevated train tracks in Manhattan's Lower West Side into the High Line is the third and final case study [Figure 8.1]. The scheme is a transformation of the disused southern viaduct section of a New York Central Railroad line called the West Side Line. The park runs from Gansevoort Street in the Meatpacking District to the northern section of the West Side Yard on 34th Street. After a short but intensive working life as train line, two decades of abandonment, and two more decades of neighbourhood advocacy and political manoeuvring, this 2.4 km of disused railway trestle was transformed into an urban park between 2007 and 2015.




FIGURE 8.1 Location High Line in Lower Manhattan. (Base photo: Google Earth).

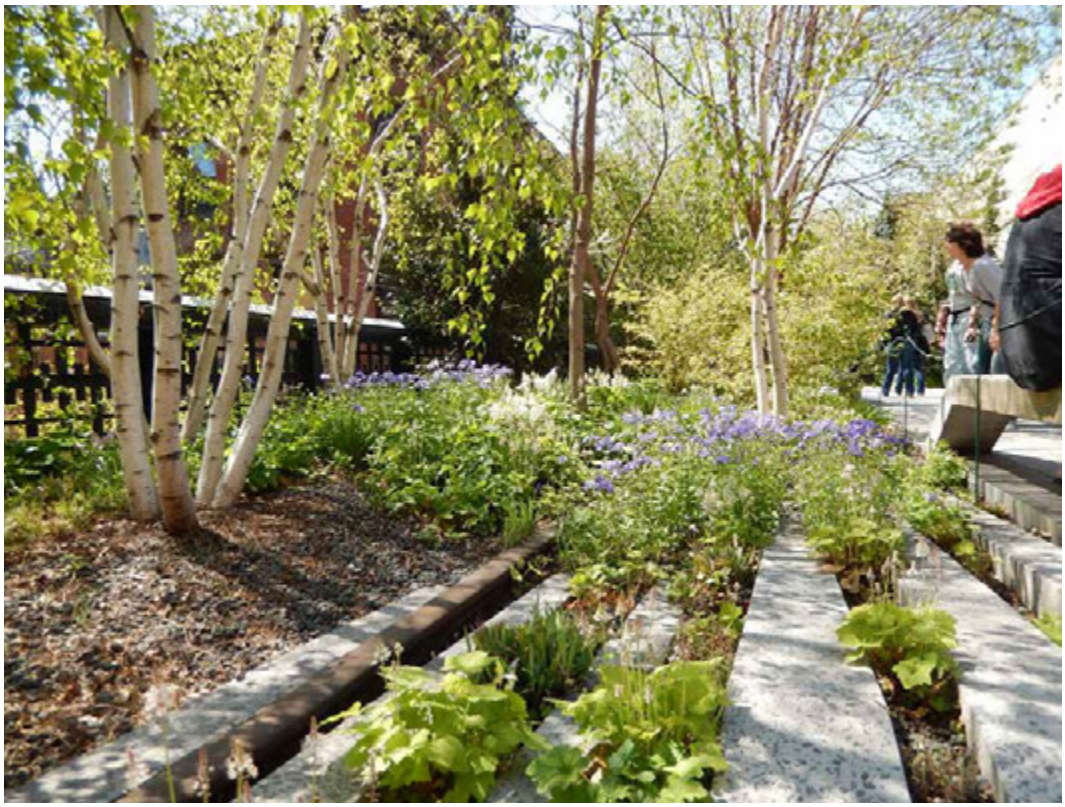


FIGURE 8.2 High Line 2015. (Photo: Marie-Laure Hoedemakers).

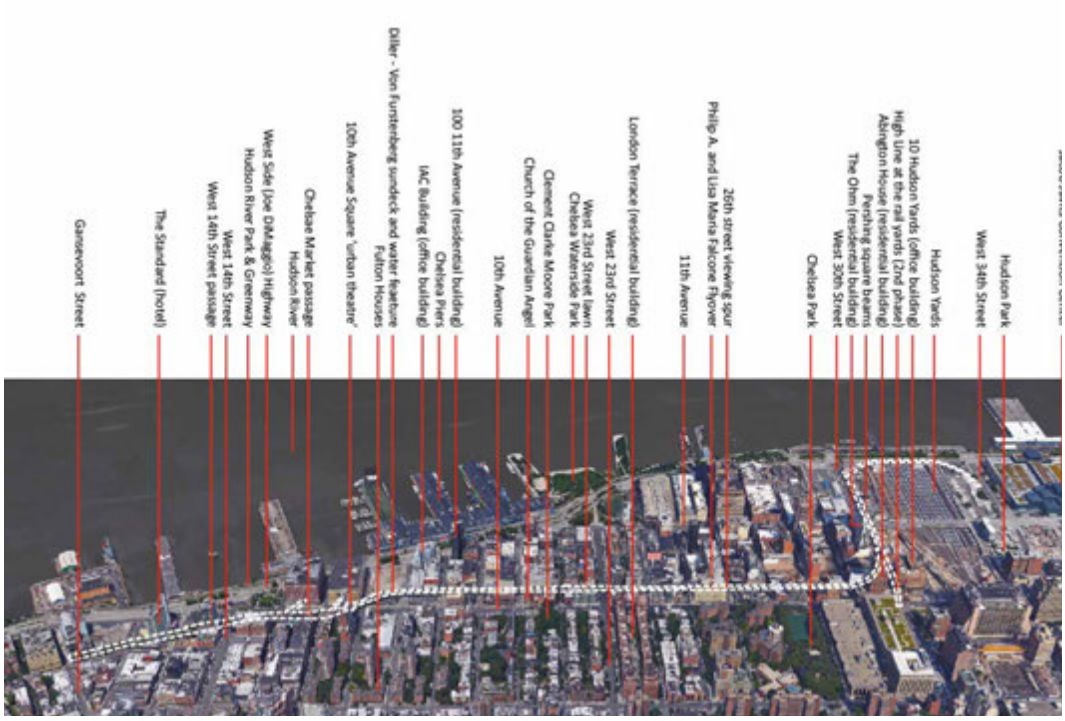



FIGURE 8.3 Overview key features the High Line. (Base photo: Google Earth).

The design was instigated in 2002, when the Friends of the High Line (FHL) gained funding to conduct a study looking into how reuse of the line as a public amenity might be economically feasible. In 2003, they held an open ideas competition, receiving 720 entries from 36 different countries. In 2004 the FHL instigated a new initiative, asking design firms to collaborate by forming teams of landscape architects, architects, planners, and engineers. In the same year, representatives from the City of New York and the FHL selected the team of James Corner Field Operations and Diller Scofidio + Renfro along with planting designer Piet Oudolf, from a pool of 52 proposals

The first section, running through the Meatpacking District, was opened in 2009 [Figure 8.2]. The second, passing through West Chelsea, was opened in 2011, and the third and final section leading around the Hudson Yards into Hell's Kitchen was opened in 2015. The scheme includes features such as: 'Ganzevoort Woodland', 'Washington Grasslands', 'Sundeck Water Feature', 'Chelsea Market Passage', 'Tenth Avenue Square', 'Chelsea Grasslands', 'Chelsea Thicket', 'Woodland Flyover', 'Meadow Walk', 'Wildflower Bend', 'Tenth Avenue Spur', and 'Beam Exploration Area' [Figure 8.3]. The FHL has an agreement with the New York City Department of Parks & Recreation to serve as its primary caretaker and is responsible for the daily operations and maintenance of the park, with around 80 full-time year-round employees (and roughly 150 full-time employees during the summer).

## 8.2 Landscape Context and Historical Development of Park Site

Manhattan is one of five boroughs of New York City, a metropolitan conurbation in New York State on the western seaboard of the United States [Figure 8.4]. The borough is mostly confined to Manhattan Island, an elongated landmass on the southernmost tip of a peninsula bounded to the west by the Hudson River and to the east by the East River. It is separated from the main peninsula by the relatively narrow Harlem River, which gives it its status as an island. Manhattan is roughly 59 square kilometres in area, 21.6 km long and a maximum of 3.7 km wide. Geologically, the island lies on the Laurentian shield, a plateau of banded Gneisses that slopes upwards from Hudson Bay to the north to a height of 600 metres. This slope is already evident on Manhattan itself, which rises gradually upwards from south to north to a height of 80 metres above sea level. Recent geological processes have also influenced the present-day landscape of the island: advancing ice from the last ice age ground the bedrock of the region down but also covered large areas of New York State with moraines of boulder clay, sand and stones of varying thicknesses. Sea levels dropped due to the growth of ice caps and rivers cut deep valleys through the moraine landscape, which filled again when the ice melted and the sea level rose, forming the present-day coast line and river systems. At Manhattan Island both the Hudson and East rivers are tidal.

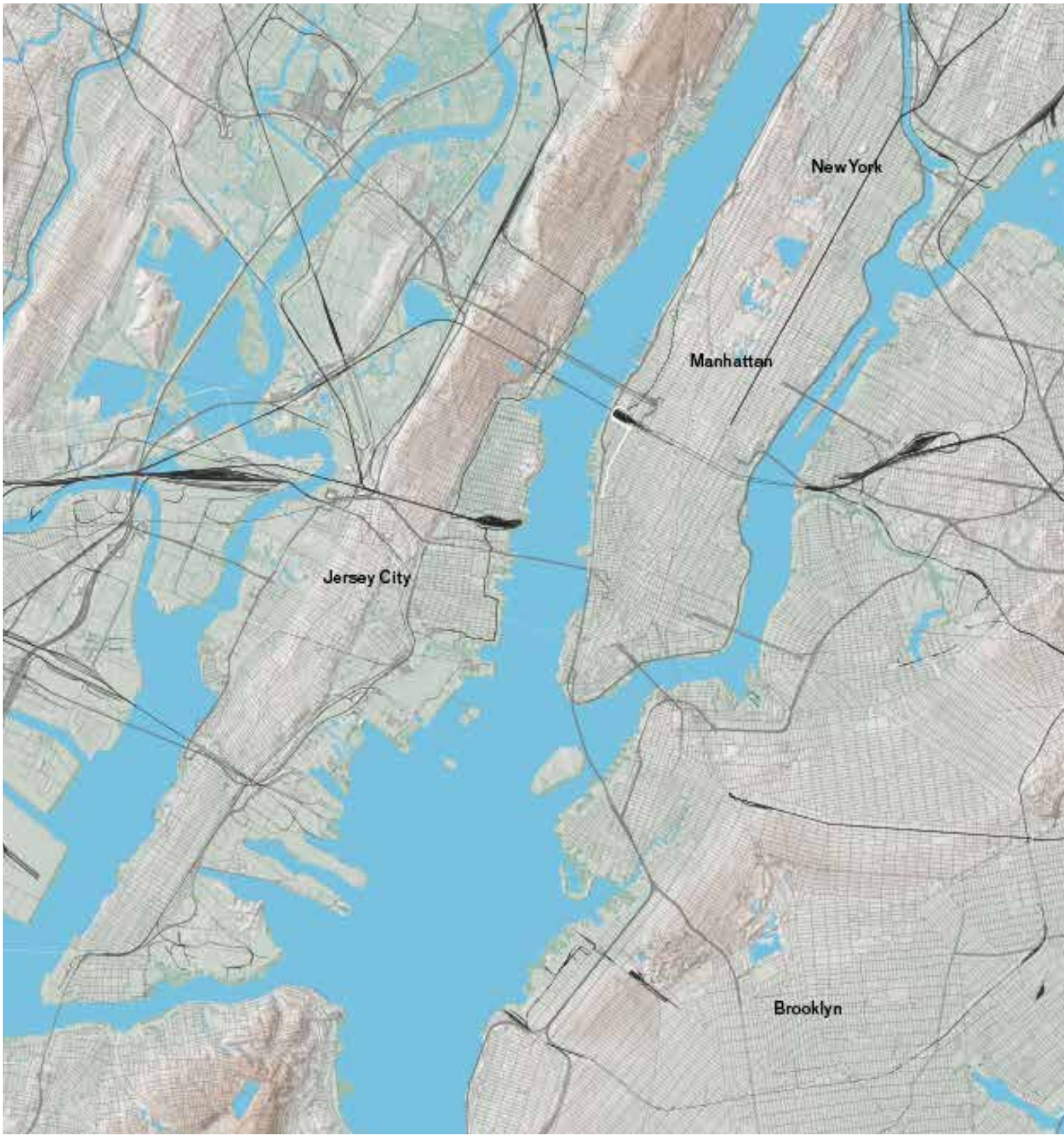
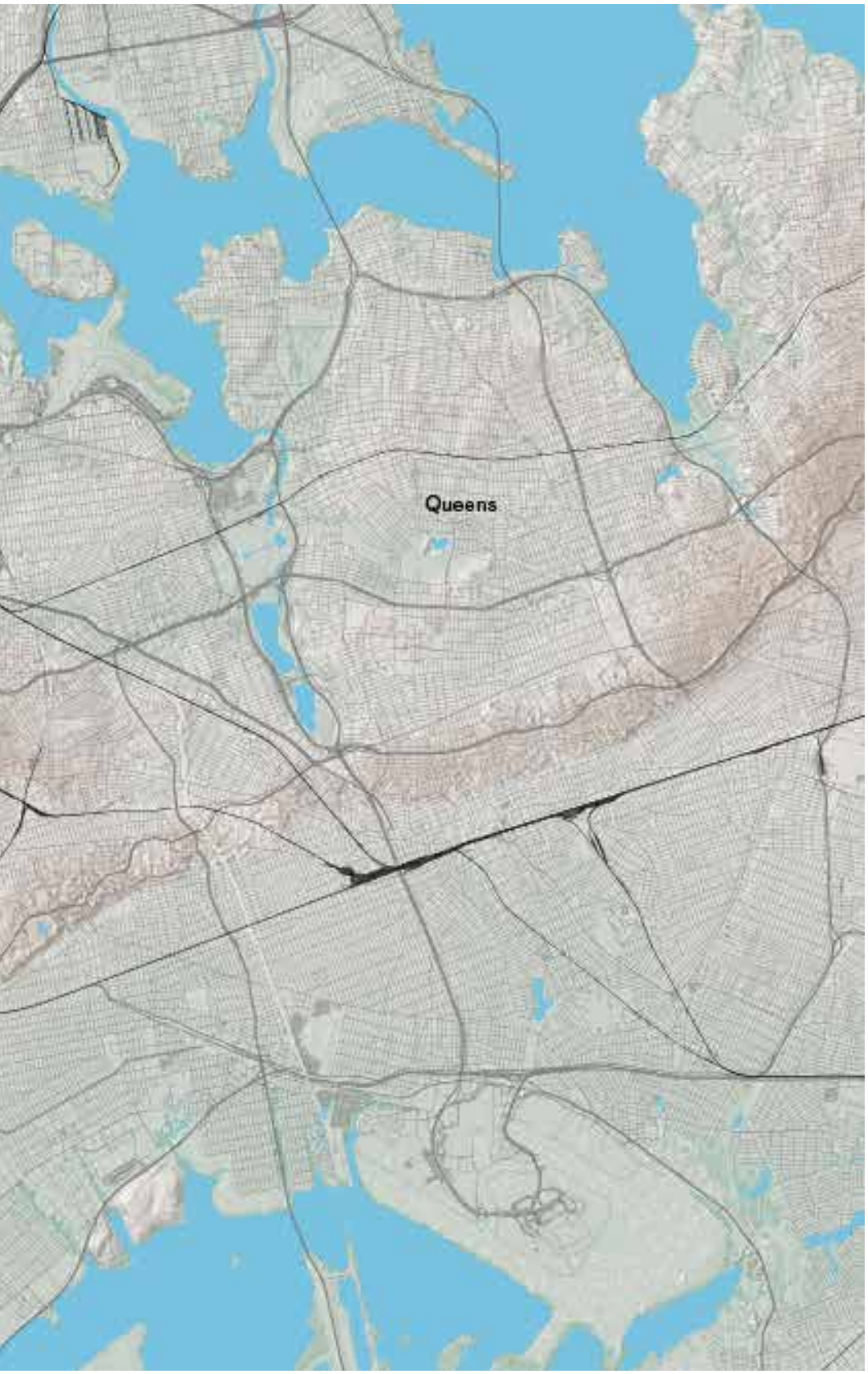



FIGURE 8.4 Park site in relation to the Natural and Urban Landscape of the New York Conurbation. (Image: Michiel Pouderoijen).






TOC

### 8.2.1 Pre-European Settlement Landscape

Prior to European settlement the island's outline was narrower and irregular, with several marshy inlets on both sides and creeks running into the rivers from a watershed roughly corresponding to Broadway. The shores of Manhattan, particularly on the Hudson River side, included numerous sandy beaches [Figure 8.5]. Using the British Headquarters Map from circa 1782, Sanderson (2007) reconstructed the natural topography, hydrology, and land cover of Manhattan Island prior to European settlement, in which a rugged topography was watered by over 108 km of streams and 21 ponds, flowing in and out of wetlands covering nearly 10% of the island. Ecological features interpreted from the British Headquarters Map, combined with additional historical, ecological, and archaeological information, led to the claim that up to 54 different ecological communities may have once been found on the island, including chestnut-tulip tree forests, grasslands, freshwater and tidal marshes, hardwood swamps, peat lands, rocky headwater streams, coastal-plain ponds, eelgrass meadows, and culturally derived ecosystems such as Native American village fields and sites.[300] At the time of the first European settlement of the island by the Dutch, the Lenape people inhabited the Hudson Bay area. These Native Americans made use of the waterways of the region for fishing, hunting, trade, and occasionally war. Paths made by Lenape peoples form the basis for thoroughfares such as Broadway.[301]

### 8.2.2 1609 -1800

European settlement began in 1609, when the Englishman Henry Hudson, in the employ of the Dutch East India Company, sailed into Upper New York Bay in search of a westerly passage to Asia. He noted the abundant beaver population in the area, one of the factors that lead to the founding of Dutch trading colony of New Amsterdam on the southernmost tip of Manhattan Island. The landscape of the island changed rapidly after the first Dutch settlers arrived, with extensive road easements, buildings, forts, fields, orchards and gardens transforming the natural landscape and the Lenape people's patterns on it. The dumping of garbage, sewage and landfill in near-shore waters, a practice that began in Dutch times and continued well into the twentieth century, substantially altered the coastline.[302] By the end of the eighteenth century, blocks, docks and slips had extended into these landfill areas and the landscape on the island itself included [Figure 8.6]. Until 1800 however, relatively little activity occurred in the area north of the main settlement area of lower Manhattan, aside from agricultural development and some fortifications, including around the present-day Chelsea area. The original shoreline remained intact, roughly following the alignment of the present-day High Line.

300 Sanderson, 2007.

301 Foote, 2004.

302 Buttenweiser, 1999.




FIGURE 8.5 Plan of lower Manhattan, circa 1600. (Drawing: Bas de Jong & Michiel Pouderoijen, Adapted from Sanderson 2007, and British Headquarters map, 1782).




FIGURE 8.6 Plan of lower Manhattan, circa 1800. (Drawing: Bas de Jong & Michiel Pouderoijen).

## 8.2.3 1800-1900

The metamorphosis of the landscape of Manhattan dramatically accelerated in the nineteenth century. Mass immigration swelled the population, such that by 1835 New York surpassed Philadelphia as the largest city in the United States. To accommodate this growth, the so-called Commissioners' Plan of 1811 was drawn up to expand the city with a street grid covering all of Manhattan Island. The proposed grid included twelve primary north-south avenues parallel to the Hudson River, and 155 east-west streets, forming a mosaic of 2,028 blocks [Figure 8.7]. A curiosity about the grid plan is the choice of a rectangular block instead of a square block, perhaps influenced by the dimensions of the island. Existing topography and land cover was largely levelled, albeit only after an extended period of consecutive development; in its initial phases the grid tended more to accentuate the topography than to raze it. The dramatic alterations of the territory by the grid included the redefinition of the shoreline, a development exacerbated by landfilling in near-shore waters that increased dramatically in the nineteenth century. The shoreline around the present-day Chelsea was in some places extended almost two full blocks into the Hudson, allowing the extension of the grid and the layout of a complete new avenue - Twelfth Avenue - along the Hudson.

Many aspects of the former natural and cultural landscape of the island did however influence the plan or were (later) incorporated. Existing roads determined the location of some avenues and streets and minor adjustments were made to the grid to account for natural conditions. Broadway - a road laid out by Dutch settlers over the original Wickquasgeck Trail - was incorporated into the grid, and given the form of existing settlement areas on the southern end of the island, the grid layout south of 14th street



FIGURE 8.7 Plan of lower Manhattan, circa 1900. (Drawing: Bas de Jong & Michiel Pouderoijen).

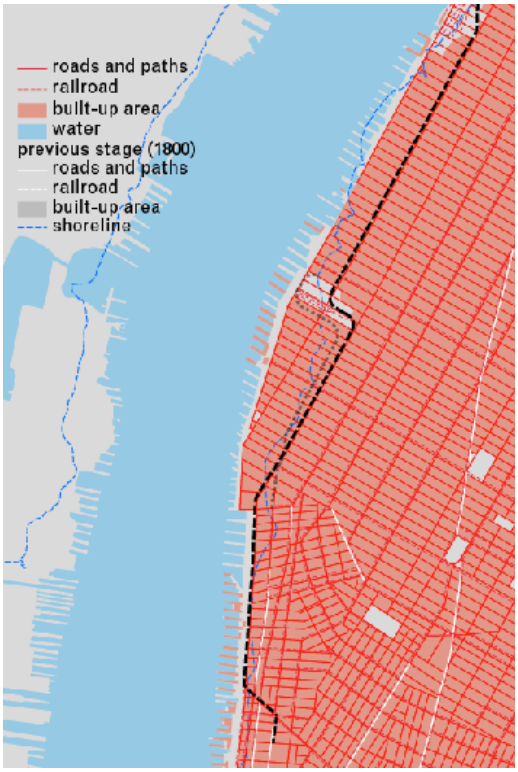



FIGURE 8.8 Plan of lower Manhattan with West Side Line, circa 1870. (Drawing: Bas de Jong & Michiel Pouderoijen).

also significantly differed to areas north of it, changing in orientation and in some cases abandoning the grid altogether. In addition, the organic morphology of Greenwich Village, once a rural, isolated hamlet to the north of the seventeenth century European settlement, was largely retained in the grid plan. West of what is now Greenwich Avenue and Sixth Avenue, streets are very different in layout to the Commissioners' Plan: many are narrow and some curve at odd angles such as Greenwich Street, which follows the former Hudson River shoreline. Recent additions such as Sixth and Seventh Avenues, laid out in the early twentieth century, were also built diagonally to the existing street plan.

Not only did the grid accommodate the massive population growth of Manhattan in the nineteenth century, it also played a critical role in the subsequent three-dimensional transformation of the city we know today. The uniformity of the grid with its indifference to topography, together with its blocks which can be divided into a number of lots, turned land into a commodity that could be bought and sold, thus rationalizing the real estate market and facilitating property development. Koolhaas (1994) noted that the two-dimensional discipline of the grid created a freedom for three-dimensional anarchy based on the city block. With the block representing the largest possible area that can fall under architectural control, there is no possibility for the city to be dominated by one vision. Koolhaas went on to contend that the Manhattan grid will thus never create a static built configuration, but that the city would become a "mosaic of episodes, each with their own life-span", with one form of occupancy established at the expense of the other.[303] As such, Koolhaas proposed that the grid represented an urbanistic breakthrough: theoretically each block can become a self-contained enclave in essential isolation from

303 Koolhaas, 1994, p. 19.



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other blocks – "a city that consists of an archipelago of blocks".[304] The dynamic spatial transformation of the territory became increasingly evident in the course of the nineteenth century. The building of the Erie Canal in 1825 connected the Atlantic port to the vast agricultural markets of the Midwestern United States and Canada, boosting economic activity in the city; within a decade of the opening of the canal one third of its export goods and two-thirds of its import goods were being shipped through New York. The enormous demand for workers continued to swell the population of the city and in 1851 more than 500,000 New Yorkers lived in the south of the island. Landlords began to divide blocks into ever-smaller parcels, building multi-residential dwellings up to six storeys high.

One major exception was made to the ubiquity of the grid: Central Park. The focus of the Commissioner's Plan on functionality and real estate meant that only a handful of public open spaces were included in the original proposal. The commissioners noted "it may be to many a matter of surprise that so few vacant spaces have been left... Certainly, if New York were destined to stand on the side of a small stream such as the Seine or the Thames a great number of ample spaces might be needful; but those large arms of the sea that embrace Manhattan Island render its situation ... felicitous".[305] But with the Hudson and East River estuaries made increasingly inaccessible due to wharves and docks, the need for a public park was expressed by influential New Yorkers, and a 280 ha area between 59th to 106th Streets was designated as public park in 1853.

A second key development in the nineteenth century in relation to the High Line was the development of rail infrastructure. In 1847 the city of New York authorized the Hudson River Railroad to build a railway line on Manhattan's west side as far as Canal Street, the so-called West Side Line. This line was built at street level, and in the Manhattan Lower West Side ran down eleventh avenue as far as 34th street, before crossing east to the Tenth Avenue and continuing down Marginal Way (now West Street) to arrive at St Johns Park Terminal (completed in 1868) [Figure 8.8]. By 1851 trains ran 24 hours a day on this line, causing problems with other traffic and pedestrians and leading to the use of so-called 'west-side cowboys' – mounted guides to precede the moving trains waving red flags to warn pedestrians and other traffic of the oncoming train. Other lines were also laid out in the Lower West Side in the Ninth, Eighth, Seventh and Sixth Avenues. Between 1876 and 1879 the West Side Line became an important route to bring fresh produce into the city – and transport manufactured goods out. Parallel to this, the first elevated railroad line was constructed along Ninth Avenue and Greenwich Street in 1866. The first column was erected in 1867 and the 0.80 km single track, which ran above the street on a single row of columns, was dubbed the "one-legged railroad". Transit Commissioners granted permission for the elevated railway company to use steam locomotives and steam operation began in 1871. A year later the system was bought by the newly established New York Elevated Railroad Company, which commenced the world's first successful elevated railway, using steam power on subsequent lines until the advent of electrical operation in 1902. Shortly afterwards the first subway train system was built. Concurrently, the riverfront was transformed for industrial use such as tanneries that could discharge their effluent into the river and ship their production by rail. Warehouses factories, lumberyards and breweries also sprang up, along with tenements to house workers. As the West and East sides of Manhattan became more populated, local railroads were elevated or depressed to escape road traffic, and the intercity railroads abandoned their Downtown Manhattan stations on Chambers Street and elsewhere.

304 Ibid. p. 20.

305 Bridges, 1811. p.24




FIGURE 8.9 Time-Lapse images of Manhattan: 1876, 1952 (Image: Daily Mail).

### 8.2.4 1900 -1950

Manhattan's spatial transformation accelerated rapidly in the twentieth century. A mosaic of buildings in each block rose steadily skywards, while at the same time the topography of the territory was increasingly levelled out. With the exception of Central Park, what had been an heterogeneous carpet of forests, grasslands, marshes, peat lands, rocky outcrops, streams, ponds and meadows metamorphosed into a homogenous built-up cityscape - a vast gridded plane on which built volumes lined recti-linear voids of streets and avenues.

The incessant process of building construction fuelled by the growth of the city gradually 'thickened' the gridded blocks to form a three-dimensional Euclidean environment. Koolhaas (1994) argues that the increasing verticality of Manhattan was not just a passive process fuelled by population growth and building activity, but was also stimulated by a cocktail of new-world aspirations and technological invention, which emerged for the first time at the New York World Fair of 1853. One of the buildings erected for the fair – the Latting Observatory - was 350 feet high and was referred to as the world's first 'Skyscraper'. A steam elevator gave access to the first- and second floor landings from where Manhattan residents could for the first time survey their island home. The resulting realisation of the territorial limitations of their island, convinced Manhattan's inhabitants of the "irrevocability of its containment, giving birth to *Manhattanism*: a geographical self-consciousness engendering spurts of collective energy and shared megalomaniac goals."[306]

A second, more prosaic development is also tendered by Koolhaas: the invention of the elevator by Elisha Otis, which allowed movement above the inaccessible (by stair) fifth floors of a building.[307] Emancipated from the tyranny of stairs and bolstered by technical breakthroughs such as fireproofed iron-framed structures, deep foundations and electric lighting, towers sprang up across Manhattan, such as the Flatiron Building - a triangular 22-storey steel-framed tower completed in 1902, the World Tower Building - a 30-storey tower completed in 1915, the 319 metre high Chrysler Building

306 Koolhaas, 1994, p. 25.

307 ibid.




FIGURE 8.10 Plan of Lower Manhattan, circa 1950. (Drawing: Bas de Jong & Michiel Pouderoijen).



FIGURE 8.11 High Line, view from west 17th Street looking north, 1934. (photographer unknown).

completed in 1930, and the colossal Empire State Building, a 102 storey tower completed in 1931 and rising to a height of 312 metres. The 'thickening' of the grid in the early twentieth century and the verticality formed by mid-town and downtown skyscrapers, is portrayed in a photo comparison of the Manhattan skyline from Brooklyn in 1876 and in 1932 [Figure 8.9].

Although these developments were most pronounced in Midtown and Downtown, similar transformations occurred across Manhattan, including the Lower West Side. The reclamation of land along the Hudson expanded the shoreline further outwards, and by the 1930s Twelfth Avenue was fully extended, forming a new waterfront thoroughfare. Piers were constructed right along the Hudson servicing trading and passenger liners, such as the Chelsea piers [Figure 8.10]. They also served as transfer platforms for railroad barges across the Hudson in the Lighterage Era, a time before bridges and tunnels enabled food and commercial goods to be transferred across the Hudson. Known as "lighters" or car floats, giant railroad barges carried as many as a dozen boxcars from New Jersey to Manhattan. At its peak in the 1930s, as many as 5000 barges crossed the Hudson every day.[308]

The combination of Rail infrastructure and waterfront activity catalysed the development of an industrial zone along the Hudson that was to determine the social and spatial character of the area for much of the twentieth century. Hells Kitchen, Chelsea, Meatpacking and West Village developed further as industrial areas, particularly on the Hudson side of the West Side Line. The West Side Line branched off from the Eleventh Avenue to terminal warehouses erected along the waterfront between Eleventh and Twelfth Avenues from Hells Kitchen to Chelsea, such as the Starrett-Leigh and the Central Stores Building. West

308 Lopate, 2004.

Chelsea, which had been a mostly residential neighbourhood before the West Side Line, developed into an industrial quarter with warehouses and factories for meatpacking, cigarette-making, car servicing, import-export, marine supplies, cosmetics and printing. The industrial area west of Tenth Avenue also included lumberyards, breweries and tenements to house workers. Major housing complexes were built in the East Chelsea area in the early twentieth century, including London Terrace, Fulton Houses and Chelsea-Elliot Houses. To the south, the Meatpacking area was home to 250 slaughterhouses and packing plants such as the Manhattan Refrigeration Company building, which cooled fruits and vegetables, furs and meat. This facility arose in parallel with a farmers market on Gansevoort Street in the early 20th century.

As the city continued to grow, so did congestion in Manhattan's Lower West Side. Cars, carts and pedestrians crowded around the Hudson River Terminals, while loaded boxcars from the 'lighters' were trucked to nearby warehouses over street level tracks. These freight cars, together with trains on the West Side Line, shared the street with trucks, horse carriages and pedestrians and accidents were so common that Tenth Avenue became known as 'death avenue'. After years of public outcry the State of New York and the New York Central Railroad agreed to the West Side Improvement Project, which included the elevation of the West Side Line to an average height of nine metres above grade from Spring Street north to the Rail yards at 34th Street, eliminating 105 street-level railroad crossings. The viaduct, a reinforced concrete decking including almost a metre of gravel ballast, was supported by 475 columns of steel framing in art deco style and lined by metal handrails. It was on average nine metres wide but up to 26 metres wide in places, and allowed for rail tracks in both directions with a load capacity for four fully loaded freight trains.

To avoid the negative conditions associated with elevated subways, the new line was also relocated away from streets and avenues, running midway through city blocks, through and between buildings [Figure 8.11]. The project included the elevated eight-track St. John's Park Freight Terminal, built on four blocks between Clarkson, Washington, Spring and West streets. From there the structure carried two tracks north on the west side of Washington Street, curving onto the east side of Tenth Avenue at 14th Street, then crossing Tenth Avenue at 17th Street and heading north along its west side. South of the Penn Station rail yards the line turned west, then north along the West Side Highway along the Hudson, before returning back down to Eleventh Avenue at 35th Street. The elevated line was built through the second or third floors of several buildings along the route, such as the Bell Telephone Company building, which was altered to allow freight trains to pass through. Other buildings were purpose-built especially for the new line. In 1933, the Morgan building was built to connect with the High Line and receive more than 8,000 mail trains each year proceeding into Manhattan. The last 30 feet or so of their journey took them across Tenth Avenue on a specially constructed spur that led directly into the postal facility. Completed in 1934, trains on the High Line transported anything from fresh meats and produce, to tobacco, furniture, mail, and manufactured goods in and out of Manhattan.[309]

### 8.2.5 1950 – 2000

Technological developments and 'Manhattanism' continued to transform New York spatially and socially in the post-war period. On Lower West Side, the growth of interstate trucking, container and

309 Under the supervision of Robert Moses, later stages of the West Side Improvement project included platforms over the rail lines north of 72nd Street, over which Riverside Park was expanded. It also included the construction of the Henry Hudson Parkway between 1934 and 1937, a road system separated from street level traffic by viaducts or tunnels.

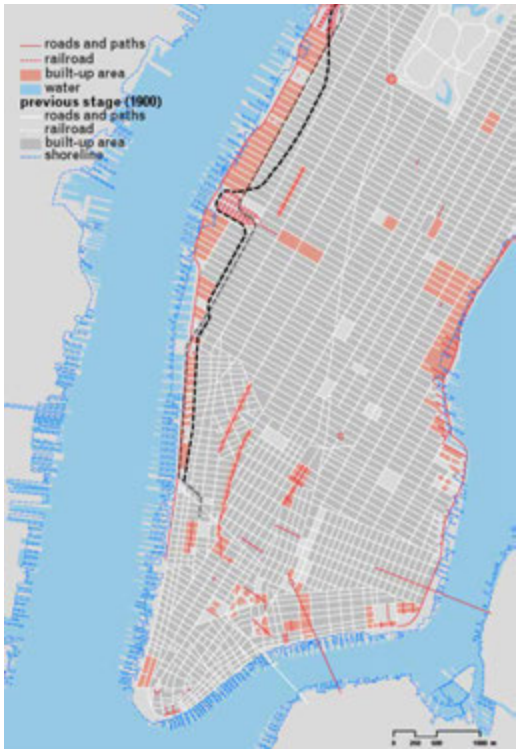



FIGURE 8.12 Plan of lower Manhattan, circa 2000. (Drawing: Bas de Jong & Michiel Pouderoijen).

air transport in the post-war period led to a drop in rail traffic, both nationally and on the High Line. In 1960, the New York Central Railroad halted rail services on the High Line south of Bank Street and sold St. John's Park Terminal. Shortly after, plans were announced to demolish the southern section of the High Line and to redevelop fourteen blocks along the Hudson in the West Village. A section of the southern part of the line between Clarkson and Bethune Street was demolished in the 1960s, and a further section between Bank and Gansevoort Street was demolished in 1991 [Figure 8.12]. Further decline in demand for rail transport led to a steady reduction in the amount of trains running on the line, and in 1980 the last wagons passed over the viaduct - carrying three boxcars of frozen turkeys.[310]

Once the line was abandoned, conditions quickly led to successional plant growth: ballast material began to break down, sediment built up and the microclimate of warehouse buildings provided protection for plants to grow. Wind and birds deposited seeds, including up to 161 native and non-native species.[311] In the mid-1980s, a group of property owners who owned land under the High Line purchased at prices reflecting the High Line's easement began lobbying for demolition of the structure.

After more than a decade of discussions about the High Line's future a not-for-profit group calling itself the 'Friends of the High Line' (FHL) was founded to advocate for the High Line's preservation and reuse as open space. This group, led by Chelsea residents Robert Hammond and Joshua David, enlisted the help of photographer Joel Sternfeld. Between 1999 and 2000, Sternfeld photographed the High Line for a year, shooting a collection of images that catalysed articles, exhibits and a fundraising

310 David, 2002.

311 Stalter, 2004.

campaign called 'Save the High Line'. Adam Sternbergh noted that "the last irony is that the rest of the High Line, the one that Sternfeld photographed, … isn't being saved at all. In fact, it was doomed from the start. Hammond and David knew that, in order to rally initial support, they had to convince people that the High Line was worth preserving in the first place, and they did so with Sternfeld's bucolic images of an untouched pasture in the sky."[312] His photos became such an important tool for the FHL that Sternfeld was considered a third cofounder of the organization. His work gained international attention in an article in the *New Yorker* in 2001 featuring his photos and the essay by Adam Gopnik, who wrote "the most peaceful high place in New York right now is a stretch of viaduct called the High Line. … It combines the appeal of those fantasies in which New York has returned to the wild with an almost Zen quality of measured peaceful distance."[313]

## 8.3 Design Approach & Project Reception

The transformation of this railway viaduct contrasts to Parc de la Villette and Landschaftspark Duisburg-Nord in terms of its unusual form (raised off the ground, restricted in width and extreme in length), its former use as a train line, and its location in one of the most densely populated and built-up urban centres in the world.[314] Evidence of the novelty of the park can be observed in the extraordinary exposure the scheme has received since the opening of the first section. In the years following the opening of the first stage in 2009, the High Line has gained a level of fame and publicity that dwarfs earlier (brownfield) park schemes. Richardson (2012) called it "the most talked-about landscape space in the world." The degree of attention for the scheme revealed the professional and public recognition of the urban park typology, a designed landscape that had become increasingly challenged for its relevance to contemporary cities and culture in the course of the twentieth century. Tate (2015) summarized the aspects of the High Line he felt lent it a similar import as "the other most talked-about landscape space in the world (Central Park)": the exceptional political and philanthropic support it generated; the way the park redefines people's relationship to the city; its appeal as a place for people-watching, plant-spotting and social interaction; its effect on real estate prices; and the way it is run (as a conservancy).[315] He also listed what he thought the 'more widely applicable lessons' from the scheme including the changing relationship between parks and cities, the importance of not wasting opportunities, the limitations of nostalgia, and the values of media-savvy advocacy.[316] While these comments reflect the general reception of the project, a critical body of literature delves deeper into themes such as site, motion & experience, nature & reception, semiotics, temporality, materiality and the social.

312 Sternberg, 2007.

313 Gopnik, 2001, p. 47.

314 Richardson, 2012, p. 46.

315 Tate, 2015, p. 35

316 ibid.

### 8.3.1 Site

Much of the discourse on the design scheme centres on the landscape qualities of the derelict viaduct before its transformation, and the way these qualities have been subsequently translated. Critical pre-design readings of the territory began with the founders of Friends of the High Line Joshua David and Robert Hammond, who were inspired to advocate for the park's designation by their 'discovery' of the hybrid landscape growing unchecked on the deserted train line in 1999[317] [Figure 8.13].

The breakdown of ballast material into growing medium after rail traffic ended, together with exposure to high winds and rain, extreme sunlight, frosts and microclimates, led to successional growth of diverse and attractive plant life. Botanist Richard Stalter documented 161 species of lichens and plants in 2003 in two zones: a small area of shrubs and low-growing trees, and a larger area of grasses and flowers.[318] The scenery and atmosphere of this raised horizontal landscape was captured by Joel Sternfeld, enlisted by David and Hammond to photograph the 'wild aesthetic' of the line in different seasons between 1999 and 2000. Sternfeld's photos, with intriguing titles such as *Peach Tree* and *Spring*



FIGURE 8.13 Joshua David and Robert Hammond on the still-derelict structure in 1999. (Photo: Joel Sternfeld).

317 David & Hammond, 2011.

318 Stalter, 2004.



FIGURE 8.14 Photographic Study of the High Line between 1999 & 2000. (Photos:Joel Sternfeld).

*Evening*, created an imagery of the line that embodied his vision of the space as 'melancholic and otherworldly, pristine and authentic'[319] [Figure 8.14]. His iconic photos are not only credited with generating critical support for the project, they are also acknowledged as having fuelled the vision for its design.[320] Writers such as Adam Gopnik, whose florid essay accompanied the publication of Sternfeld's photos, also developed important impressions of the space. Gopnik's prose conjured up the atmosphere of the plant life of the line but also, critically, its context: "Knee-high plants that look like tarragon grow in neat rows and, as you look east, seem to enter into a distinct, perspective-keeping compact with the canyons of Thirty-first and Thirtieth Streets, whistling away towards the East River. It is quiet there, and the Hudson, which fills the vista in the opposite, or western direction, suddenly seems not a distanced rumoured presence but the obvious point of the joke – the reason people settled this island in the first place."[321] These works established a valuing of the intrinsic characteristics of the site – its form and elevation, its scenery, and its 'natural' qualities.

The winning competition entry by Field Operations and Diller, Scofidio + Renfro was subsequently commended - and chosen - for its retention of the qualities of this original landscape, summarized in their slogan *Keep it! Keep it wild; Keep it slow; Keep it quiet; Keep it simple*![322] Recalling the Promenade Plantée project in Paris completed two decades earlier, Johnson (2015) declared that this project clarified what the High Line was definitely *not* to do. "... that design didn't take advantage of its urban context or the fact that its was an elevated park, and there seemed to be no references to its previous life as a viaduct except at ground level."[323] In reference to the influence of the site on the scheme, Corner (2008) notes that "... it has always been our position to try to respect the innate character

319 Sternfeld, 2001.

320 LaFarge, 2012.

321 Gopnik, 2001, p. 49.

322 David & Hammond, 2011.

323 Johnson, 2015, p. 16.

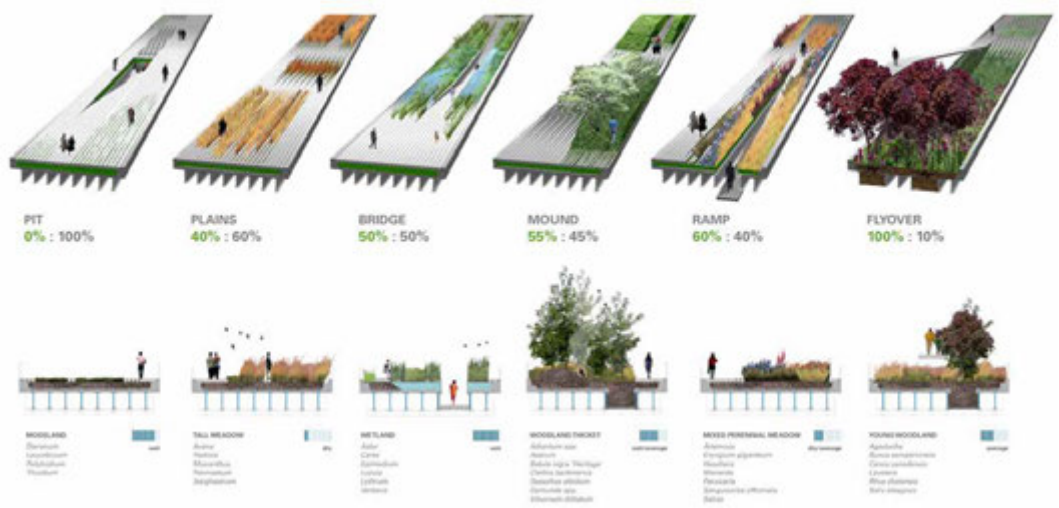



FIGURE 8.15 Panel images from the Competition Submission. (Images: JCFO, Diller, Scofidio + Renfro).

of the High Line itself: its singularity and linearity, its straight-forward pragmatism, its emergent properties and wild plant life – meadows, thickets, vines, mosses, flowers, intermixed with ballast, steel tracks railings, and concrete."[324] In leaving the rail trestle intact, the design team claimed to acknowledge the site as a physical entity, both its structure and material presence [Figure 8.15]. Structures beyond the viaduct were also specifically understood as part of the notion of (physical) site. Corner (2015) notes the views to the statue of liberty, the Hudson River, and various vistas across Manhattan. Design principle three moreover, intimates an acute appreciation of the (material) conditions of the landscape atop the trestle. Corner iterates the impact of the emergent landscape of the viaduct on the scheme: "It was a linear garden, and each block had its own particular microclimate. The green assumed different textures, heights, and combinations. That observation informed our design approach significantly, because we knew we wanted a unified but also varied experience".[325]

### 8.3.2 Motion & Experience

The congruence of site characteristics and park design not only suggest that a basic form layout may have become superfluous as design procedure, it also questions the role of an introduced spatial schema in the composition. From the literature it would appear that the design team rejected the idea of a new spatial motif for the project; third in a series of eight design principles from the original competition submission reads "Preserve North-South sightlines and linear consistency of the High Line".[326] Ostensibly then, as much as the limitations of the viaduct prescribe the figural form of the scheme, it would also seem to prescribe its spatial structure.

324 Corner, 2008. p. 30.

325 Corner in JCFO, Diller, Scofidio + Renfro, 2015, p. 18.

326 ibid, p. 168.



FIGURE 8.16 Woodland Flyover Impression. (Image: JCFO, Diller, Scofidio + Renfro).

The scheme's spatiality – and particularly in relation to movement through it - is however noted repeatedly in the literature, beginning with the observations of designers themselves; the second design principle reads "Slowness: Develop a varied and intimate choreography to encourage visitors to keep a slow pace and allow themselves to be distracted."[327] Elaborating on this principle further, Corner (2008) describes the park as "an episodic and varied sequence of public spaces and landscape biotopes set along a simple and consistent line."[328] The use of the words 'episodic' and 'sequence' resonate with the tradition of motion design in parks and gardens, one which La Villette and Duisburg-Nord also reflect. Specific to this project is the act of walking itself, something the design team emphatically stressed. Diller (2015) stresses the difference with the adjacent Hudson River Park which he saw as a place for runners, bikers and roller-bladers: "We wanted the High Line to encourage slow motion and be a place for strolling and sitting."[329] How the park recovers this tradition will be explored further in the case study, in particular the way motion is choreographed.

Helphand (2013) notes that walking the High Line "is like wending your way through an urban canopy, a traverse that takes you into the upper storey of the forest where different forms of life are visible."[330] The role of the (vegetative) environments realised on the line thus form a critical part of the 'sequence'. Guided along a weaving bed of linear concrete tiles, the visitor passes through highly varied planted environments. LaFarge (2012) notes for instance, the densest planting in the park – the Chelsea Thicket - likening it to entering a passageway to a secret kingdom [Figure 8.16]. Moreover, interaction with the planting evokes a highly sensorial experience: visual, olfactory and tactile. Darke (2014) for instance, describes the unique appeal of the grasses in the scheme, not only derived from their texture and form but also their sound scent and movement: "As they move they sing in tones ranging from a rustle to a low rattle."[331]

327 ibid, p. 168.

328 ibid, p. 30.

329 Ibid, p. 19.

330 Helphand, 2013, p. 35.

331 Darke, 2014, p. 116



FIGURE 8.17 High Line Life. (Image: Jorge Columbo).



FIGURE 8.18 Highline 2013. (Image: Alexandra Blum).

In the same vein, various references in the literature describe the visual integration of the urban context in the scheme that elaborates a different interrelationship of city and park to what we have seen at Parc de la Villette and Duisburg-Nord. LaFarge (2012) contends that the High Line was designed as a platformthat "puts the great metropolis on glorious display", noting how this contrasted with nineteenth-century parks such as Central Park, which she considered conceived of as a visual and experiential escape from the city. Similarly, Hammond (2011) noted that "the High Line works so well because it never takes you away from New York."[332] From the designer's perspective, Corner (2008) speaks of "a line that cut across some of the most remarkable elevated vistas of Manhattan and the Hudson River, each view unfolding through an other-worldly synaesthesia of motion."[333] The importance of the city around it for the design cannot be overstated – indeed one wonders what the design would be like without it.

By extension, the park is also credited with opening up a new perspective on the city. Helphand (2013) concludes that there is now a new High Line level from which the city is measured, with views to both the world of rooftops and circulation at street level [Figure 8.17]. Gopnik (2001) notes that the overhead viewpoint in Manhattan is "curiously peaceful and nostalgic, the beautiful vista, rather than the sublime."[334] He goes on to contend that the notion of looking down in Manhattan does not mean to look down on, rather "it is a communal experience, with something of the feeling of sailors in crow's nests looking at other sailors, a fellowship of the air".[335]

332 Hammond & David, 2011, p. 128.

333 Corner, 2008, p. 30.

334 Gopnik, 2001, p. 47.

335 Ibid, p. 48.

Indeed, this may be the first park in the world in which one does not speak of being *in* the park but being *on* it. Helphand (2013) makes particular note of the paradox of a raised park working better to connect its users to the streets of the city. The case study will explore the way in which street level and park level – and the transition between the two - are conceptualized and resolved. To what degree the 'episodic' and 'sequential' is a technique to repopulate this landscape (as at Duisburg-Nord), and/or to develop an alternative reading of the city around it, is a related question. Additionally, the mention of designing with 'an other-worldly synaesthesia of motion' is a contention that the next stages of the analysis will investigate in regards to the role of kinaesthesia in the project, including the elaboration of the sensorial. How the approach adds to the techniques evidenced at Parc de la Villette and Landschaftspark Duisburg-Nord forms part of this explication, contributing to the further evolution of the figural and the spatial in park composition.

### 8.3.3 Nature, Meaning and Reception

A recurring theme in the (literature on the) project is the role of the image – and imagination - of nature. Visual representations of nature on the derelict viaduct have played a central role in the High Line's development, preservation, design, maintenance, publicity and use. Sternfeld qualified the nature of the High Line as "pristine, though it doesn't fit the public's notion of pristine, which is nature untraveled... But in some ways, the High Line is more pristine than Yellowstone or Yosemite, because every inch of it is authentic."[336] These representations of the landscape of the line were critical for the argument for its re-use as public park, by establishing a reading of the territory as 'wilderness'.[337] McEntee (2012) however, argues that while the space's history as a 'wilderness' inspired its preservation, its design indicates a continued focus on the idealized representation of nature through the picturesque. Similarly, Bowring (2009) claimed they also provoked a nostalgia about the loss of "decaying and desolate places ...suffused with an enigmatic poignancy, a vulnerable allure."[338] And Oudolf stated that his work tries to "recreate the spontaneous feeling of plants in nature. The idea is not to copy nature, but to give a feeling of nature."[339]

Furthermore, while the design scheme appeared to focus on drawing out the intrinsic characteristics of the derelict viaduct and its 'nature', it is also observed to evoke other things. Helphand (2013) contends that much of the appeal of the park lies in its ability to conjure up memories and fantasies of other experiences such as the a walk on the Brooklyn Bridge and the now demolished elevated West Side Highway. He also notes that the High Line is "a catwalk looking down onto the theatre of the street, it is an extruded terrace, a grand fire escape, a communal version of the iron balconies of city apartments. It is a garden belvedere with magnificent and surprising view of the city."[340] These reflections point to the influence of the environment of the park on the construction of different mental narratives in the minds of visitors [Figure 8.18]. In reference to this LaFarge (2012) notes the effect of the raised walk

336 Sternfeld, 2009.

337 Gopnik, 2001.

338 Bowring, 2009, p. 67.

339 Oudolf in McGrane, 2008.

340 Helphand 2013, p. 34.

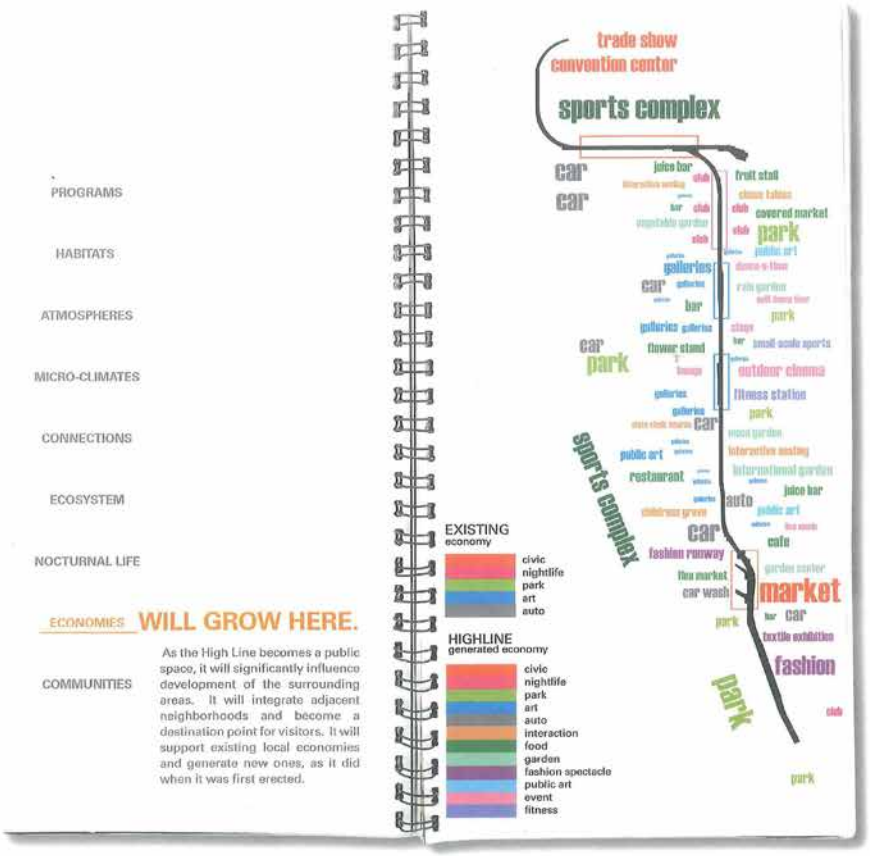



FIGURE 8.19 What will Grow Here? Panel images from the Competition Submission, Stage 1. (Images: JCFO, Diller, Scofidio + Renfro).

as a cinematic experience. Something of this phenomenon resonates in design team's third principle: 'Build upon and enhance unusual, wild and found conditions.'[341] As at Duisburg-Nord, the evocation of other worlds in the project suggests an engagement with how people give different meaning to physical environments through imagination, rather than through associations outlined by a set-piece narrative. Whether in fact the scheme uses conventional signs and narrative tools or develops multiple meanings of the park from the perspective of reception, and how this recalls or renews compositional operations such as image form are explored further in the case study.

### 8.3.4 Temporality & Process

Central to the discussion of meaning in the project is the way in which history has been addressed. Little mention is made in the literature of the site's history in the thematic of temporality; instead much of the discussion revolves around historic episodes and structures, and notions of their preservation. This pattern continues in the design proposal. The conservation of the 'architecture' of the viaduct resonates

341 JCFO, Diller, Scofidio + Renfro, 2015, p. 168.



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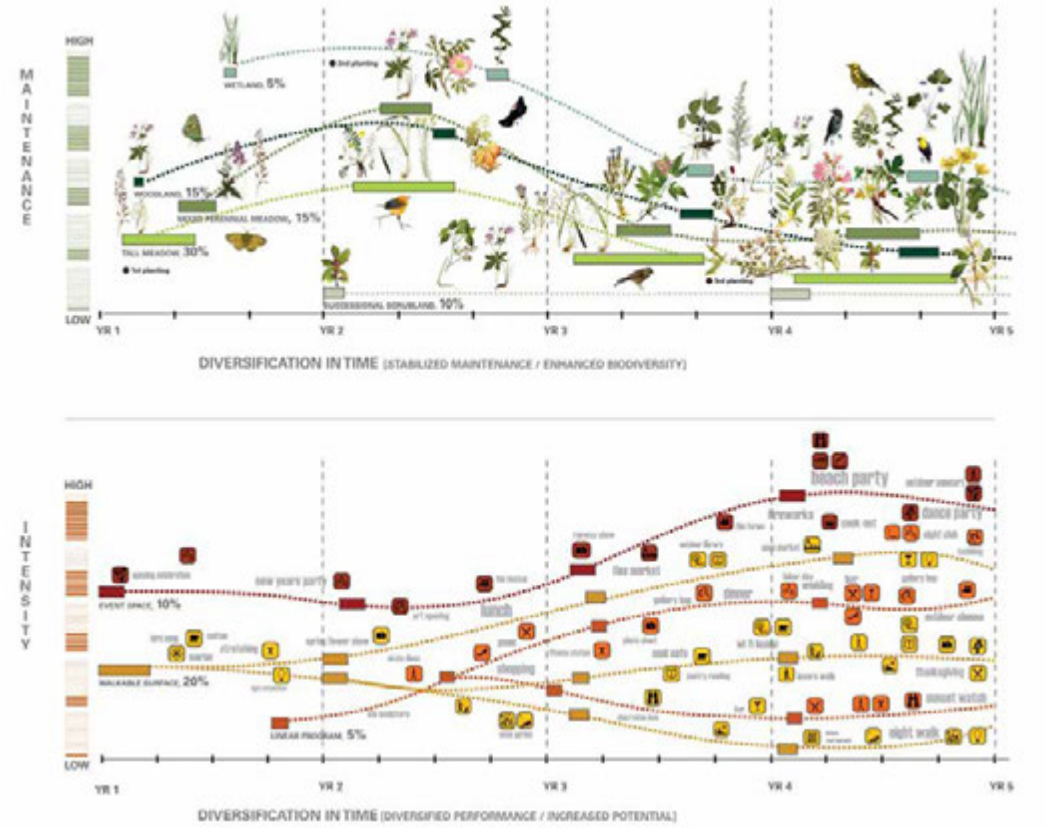



FIGURE 8.20 Diversification in Time, Panel images from the Competition Submission, Stage II. (Images: JCFO, Diller, Scofidio + Renfro).

in the fourth design principle of the competition scheme: 'Reveal Structure: Expose and dramatize the physical characteristics of the railway trestle.'[342] This principle suggests a mix of museification and monumentalization of the past. Comments by LaFarge (2012) support this: she contends that the High Line is a "many-layered narrative on New York's long and vibrant history."[343] Does the project extend the approach seen at Duisburg-Nord, which focuses on temporality as compared to history?
Related to this topic is the notion of process. While, in comparison to Duisburg-Nord, little mention is made in the literature of working with (industrial) processes or with natural processes of disturbance and decay, the idea of process is indeed expressed in the focus on the dynamics of plant material and the seasons, appearing in reflections of the original state of the line and on the design scheme itself. According to planting designer Piet Oudolf, the whole cycle of a plant's life is intended to delight us, from the colours of the growing seasons to the lifeless shapes and forms of plants in winter.[344] On this topic, Corner (2015) notes " Piet's choice of plantings helped amplify the found conditions – the range of textures, the dynamic succession from section to section, the seasonal variation in which every month there was something different in bloom."[345] Darke (2014) notes the way in which grasses transform the spatiality and colour of the park through the year, and their contribution to the dynamic quality of the scheme.

342 ibid, p. 168.

343 LaFarge, 2012, p. 60.

344 ibid, p. 63

345 JCFO, Diller, Scofidio + Renfro, 2015, p. 189.

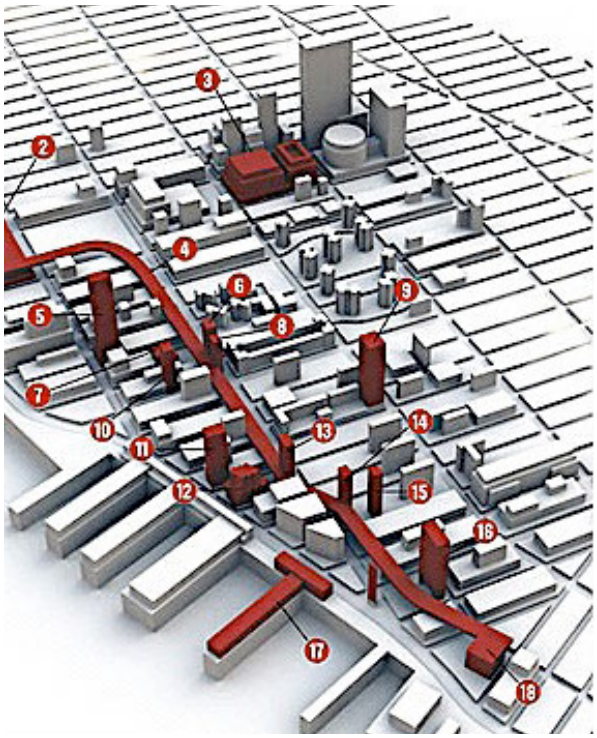



FIGURE 8.21 Rising in the West: (1.) Javits Center; (2.) Hudson Yards; (3.) Moynihan Station; (4.) High Line; (5.) Chelsea Arts Tower; (6.) Vesta 24; (7.) Marianne Boesky Gallery; (8.) West 23rd Street building; (9.) General Theological Seminary Tower; (10.) High Line 519; (11.) West 19th Street building; (12.) IAC Headquarters; (13.) 516 West 19th Street; (14.) The Caledonia; (15.) Chelsea Market Residence; (16.) The Standard, NY; (17.) Pier 57; (18.) Dia High Line. (Image: http://nymag.com, Midtown West in 2016, drawing: Jason Lee).



FIGURE 8.22 Panorama of the city from the High Line, 2013. (Image: Daniel Jauslin).

On a more fundamental level, process understood as 'growth' was an early theme in the design team's publications. The first stage competition entry from the JCFO, Diller, Scofidio + Renfro team was entitled 'What Will Grow Here?' and featured nine themes in which growth could be explored [Figure 8.19]. In the second submission, the concept 'Agri-texture' is introduced as "a flexible, responsive system of material organization where divers ecologies may grow."[346] This concept is best illustrated by panel four of the second stage competition submission, where the team visualized the expected diversification of plant and animal life over time, as well as that of human-social practises and activities [Figure 8.20]. The notion of process also typifies commentaries on the urban context of the park itself. In the period since it's opening, billions of dollars in urban development has occurred the area, with a corresponding transformation of the social make-up of the district.[347] Reflecting on this process, Corner characterized the design approach as "...like putting energy into a slow-moving ecosystem – a new stimulant that creates an accelerating cascade of effects."[348] Former mayor Michael Bloomberg noted that the High Line project helped usher in a renaissance in the area: by 2009 more than 30 projects were under construction nearby, and by 2016, 11 more projects were underway.[349] [Figure 8.21]. With the project seen to have accelerated physical and social

346 ibid, p. 148.

347 Koblin, 2007; Gregor, 2010.

348 JCFO, Diller, Scofidio + Renfro, 2015, p. 65.

349 Brabanel, 2016; Pogrebin, 2009.

changes to the urban areas around it, does the dynamics of the urban backdrop of the scheme take on the role of the temporal? This potential inversion of roles, and its potential contribution to the metamorphosis of compositional praxis, will be explored further in the research.

### 8.3.5 The Social

Process as term also emerges in the literature in relation to the social, but in a different way than in earlier parks. Features such as an amphitheatre, outdoor cinema and wetland/ice-skating rink included in the competition submission were left out of the realised plan.[350] Instead, the design team established a set of design rules based on the limitations of the viaduct, whereby ballgames, skateboarding, cycling and dog-walking were made difficult or impossible, and simple activities such as strolling and interpersonal interaction were accommodated. Corner observed that the programming followed the idea of a simple walk with 'settings' that would support a variety of programmes.[351] Social interaction is thus a central theme of the project, with the transformation of the viaduct into a social space featuring often in commentary on the project, starting with the immense popularity of the scheme. In terms of visitor numbers, the park now attracts more than ten times the number of visitors than originally anticipated, with estimates of 4.5 million visitors for 2013.[352] Helphand (2013) also noted the strong resemblance to promenades and other linear walks: "it is a Mediterranean corso, the location of ritual promenades. It is a waterfront esplanade, much like the city's boardwalks, it is like the promenade deck of an ocean liner."[353] [Figure 8.22]

But while these comparisons posit the project as part of an enduring tradition of urban spaces to observe and be observed, they also question the scheme's qualification as park typology as compared to, for instance, a street. The design team's response was to differentiate these two typologies from a commercial perspective. Diller (2015) stressed the design team's intention that the park would not become another city street: "In fact we're militant about not bringing cafes, bookstores, and other shops – the whole consumer leisure world – up to the level of the structure."[354] Instead, programming of temporary activities is designed to promote new forms of social interaction. Design principle seven reads: 'Program Mix: Cultivate a diverse range of activities at all times of the day and year that promote exchange and chance encounters'.[355] This objective resonate with Parc de la Villette and Duisburg-Nord in which the urban park project takes on a new mandate in the 'social and cultural life of the city'.

350 JCFO, Diller, Scofidio + Renfro, 2015.

351 Ibid.

352 Tate, 2015.

353 Helphand, 2013, p. 36.

354 JCFO, Diller, Scofidio + Renfro, 2015, p. 19.

355 Ibid.

### 8.3.6 Materiality

Finally, one the most distinctive features of the project are the role of materials in 'shaping' the park. Corner (2015) observes that "the design concept emulated the self-similarity of the rail-bed landscape: a mile-and-a-half (2.4km) of something constant and systematic, a ribbon of rail-bed with plants that thicken, thin out, ebb, and alter their textures according to different microclimates." LaFarge notes that the foundational idea of the High Line is the creative planking system of tapering forms made from modular pre-cast concrete, a detail that "brilliantly evokes the form of the former railway line while also facilitating traffic movement and plant growth simultaneously."[356] [Figure 8.23] Ulam (2009) observes that the paving design creates solitary splinter paths where visitors can commune with the High Line's plant life. This observation highlights the other primary constituent material of the scheme: its planting. Numerous references are made to the botanical material of the original site, and the flora of the new planting scheme. The more than 250 species of perennials, grasses, shrubs vines and trees in Oudolf's planting scheme, moved Tate (2015) to characterize the High Line as "probably the longest perennial border in the world."[357] Darke (2014) suggests that the planting design works so well because it is not only botanically fascinating but also forms a complete vegetative concept. How does this materiality play a role in elaborating composition in landscape architecture? This role will be explored further in the case study.

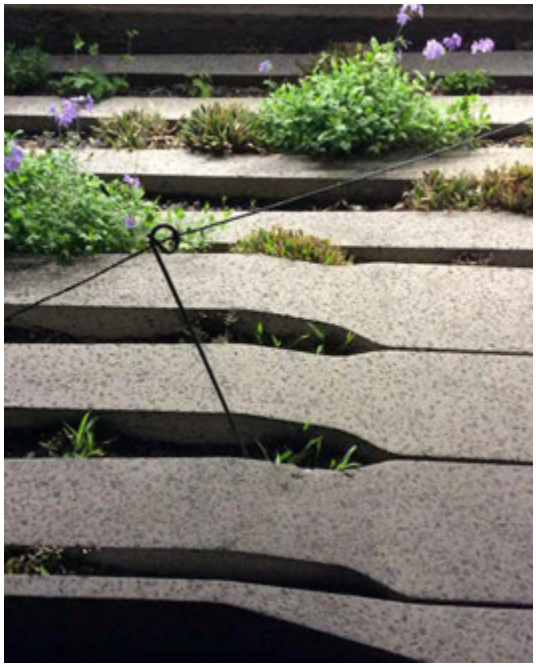


FIGURE 8.23 High Line Promenade, 2015 (Photo: Author).

356 La Farge, 2012, p. 122.

357 Tate, 2015, p. 45.

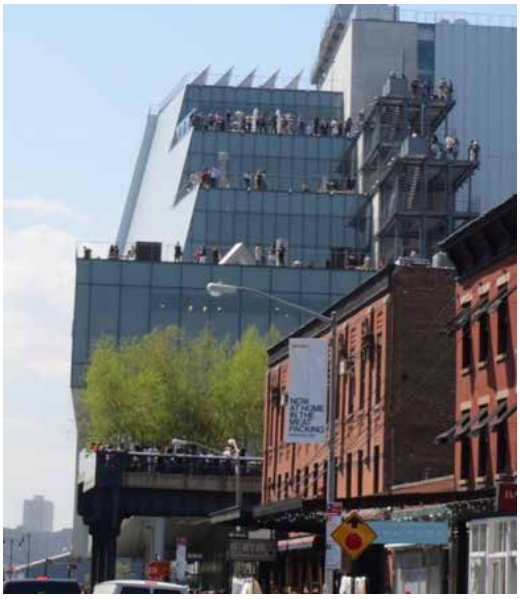


FIGURE 8.24 Ganzevoort St. & Whitney Museum. (Photo: Author).



FIGURE 8.25 High Line Spur, Ganzevoort St. (Photo: Author).

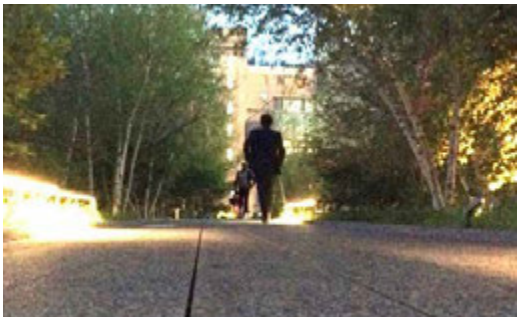


FIGURE 8.26 Ganzevoort Woodland, Washington St. (Photo: Author).



FIGURE 8.27 View back to High Line Spur from Standard hotel under-croft. (Photo: Author).

## 8.4 Descriptive Site Observations

Given the highly defined form of the High Line, the structure of a site observation analysis is a walking tour from one end of the park to the other. The scheme can be divided into eight zones: Ganzevoort to 13th Street, 13th to 17th Streets, 17th to 22nd Streets, 22nd to 26th Streets, 27th to 30th Streets, 30th Street; Twelfth Avenue, and 34th Street. The tour was made on a warm in early May 2015, between 10am in the morning and 12 noon.

The tour begins at the Ganzevoort St entrance. The approach to the park is dominated by the Whitney Museum, which rises to some 35 metres between the High Line and the Hudson. Opened in 2015, the museum is made up of a stacked series of three galleries, each with a public terrace offering views over the High Line and Manhattan. The result is a cascading series of public decks akin to a cruise ship, looking out over the High Line [Figure 8.24].



FIGURE 8.28 Upper Sundeck and lower preserve, 14th St. (Photo: Author).



FIGURE 8.29 View from the sun deck preserve across the Hudson. (Photo: Author).



FIGURE 8.30 View West 15th St. (Photo: Author).



FIGURE 8.31 Northern Spur & 10th Avenue Square. (Photo: Author).

**Ganzevoort to 13th Street.** The demolition of southern sections of the High Line south of Gansevoort Street between 1965 and 1991 means the High Line begins (and ends) abruptly as a spur on the corner of Gansevoort and Washington Street. Here the rail trestle is raised on columns for the first 50 metres, so that it forms a horizontal element detached from the ground, thickened by planted vegetation [Figure 8.25]. Access from street level is via a stairway set twenty metres back from the end of the structure. This section of the Park edges a thoroughfare (Washington Street), forming a raised balcony onto the street and a roof to functions beneath it. On the High Line itself, planting is laid out in two zones: a woodland zone of birch trees in the first block and low grassland through the second and third blocks. The first zone begins with a small paved lookout area, from where the concrete planking leads off in a wide path flanked by birch and cherry trees (Ganzevoort Woodland), before widening out to a double walkway around a stairway [Figure 8.26]. Beyond the Ganzevoort Woodland, an open meadow landscape (Washington Grasslands) stretches to 13th Street. At 13th street the High Line passes under the Standard Hotel, a new 60 metre high building straddling the High Line. The structure is raised on ten metre columns, forming a dramatic portal to park areas beyond [Figure 8.27]. In this zone the paving splits and meanders to the left and right, affording views over Washington Street and west to the Hudson.

Between 13th and 14th Street, the park passes under a second building, the 14th Street Passage. Closed in on both sides and relatively low (seven metres), it creates a tunnel-like passageway, which is used for special events, art installations and educational programmes.

Just beyond the passage a second access point (lift and stairway) rises from 14th street, landing in a zone where the park divides into two different levels: a walkway continuing on at the nine-metre level (Sundeck Water Feature), and a lower strip dropping to 7.5 metres above street level (Sundeck Preserve) [Figure 8.28]. A wet zone of swampy native vegetation divides the two levels - the 'High Line Bog'. The junction of Tenth Avenue and 14th Street to the west means there are no buildings built between the High Line and the Hudson River for a full block, with views to be had across to the New Jersey waterfront, and to the Statue of Liberty in the middle distance [Figure 8.29].



FIGURE 8.32 Sunken Overlook, tenth Avenue Square. (Photo: Author).



FIGURE 8.33 Sunken Overlook from tenth Avenue. (Photo: Author).



FIGURE 8.34 18th Street Plaza. (Photo: Author).



FIGURE 8.35 Views from18th Street Plaza. (Photo: Author).

On the upper level, lounge chairs and seating features mounted on old rail ties form a sundeck towards this view for a length of around 100 metres. In this section the dramatic spatiality of Manhattan's streets becomes apparent; views east down 15th Street reveal the cavernous linear voids created by thoroughfares lined by warehouses and apartment buildings [Figure 8.30]. Beyond the sundeck the line passes beneath a third building – the Chelsea Market Passage – similarly divided in a high and low level walkway. From the Chelsea passageway, two rail spurs leads off to former warehouses from the lower level. The southern spur, which once took dairy trains into the Nabisco factory, is now public covered way and art installation area. The northern spur is inaccessible, but planted up with native grasses and perennials recalling the "self-sown" landscape of the former line. The northern spur reserve forms the end of the lower section of the park, while the regular level continues in a sweeping arc to the west across Tenth Avenue [Figure 8.31].

This section, a quadrangle of timber decking known as the Tenth Avenue Square, marks the transition from the linear enclosed space of the High Line through the Chelsea Passage to the more sinuous form and open spatiality of the park from 17th Street onwards. The Tenth Avenue Square is best known for the sunken overlook, a stepped seating dropping down to a glazed façade revealing the traffic of the tenth avenue below [Figure 8.32 & 8.33].

The curve in the line passing over Tenth Avenue ends at 18th street before swinging back onto the straight, eleven-block stretch through Chelsea. At the bend, a stepped series of seating alcoves has been constructed along the western edge, backed by steel frames of climbers, the 18th Street Plaza [Figure 8.34]. This is one of the most open areas of the High Line, from where prominent new buildings such as the IAC building by Frank Gehry, and the 100 Eleventh Avenue apartment tower by Jean Nouvel can be viewed [Figure 8.35]. From the seating alcove and the connecting Chelsea Grasslands, the city also reveals itself for the first time as wide skyline, with the outlines of prominent buildings such as the Chrysler and Empire State Buildings visible.



FIGURE 8.36 Chelsea Thicket. (Photo: M-L. Hoedemakers).



FIGURE 8.37 23rd Street Lawn. (Photo: Author).



FIGURE 8.38 Woodland Flyover. (Photo: Author).



FIGURE 8.39 26th Street Viewing Spur. (Photo: Author).

From 20th Street, the low grassland transitions into a higher planting volume made up of a mixture of evergreen and deciduous trees - the 'Chelsea Thicket' - which runs for two blocks to 22nd Street. The pathway in this zone is deliberately unattached to the edge railings to allow planting to envelop the visitor [Figure 8.36]. Emerging through the Chelsea Thicket, the Line widens out into a block-long lawn lined to the south by the planking thoroughfare. A short paved area and seating steps built up against the former Spears Building on 22nd Street book-ends the lawn [Figure 8.37]. As compared to other seating areas focussed on views from the High Line to the city beyond, these seating steps have no views but focus on the line and its users. Free-standing apartment buildings either side of the lawn create a campus-like enclosure, contrasting to the openness of the Chelsea Grasslands area and the scale of the line sections further south. The proximity of buildings to the line, and the fact that many of them are apartment buildings, lend this section an air of domesticity: many apartment interiors are also clearly visible, as are many of the goings-on inside them. This setting extends to 25th street, where low grasses and perennials take over from the lawn (Meadow Walk), and buildings withdraw from the line again.

Between 25th and 27th Streets, the narrow passage of the High Line formed by monumental industrial buildings is planted out with a woodland of Ailanthus (tree of heaven) and *Magnolias* [Figure 8.38].
The pathway in this zone transitions onto a steel catwalk rising 2,5 metres above the old railbed ('Woodland Flyover'), passing through this woodland and including 'spurs' to sit and relax beneath the trees. Above 26th Street one of these spurs forms a designated viewing platform with spectacular views to the skyline of Manhattan. [Figure 8.39] From here the Empire State Building is visible, as are the Chrysler building, the Bank of America tower at Bryant Park, the Condé Nast building on Times square, and the New York Times headquarters on Eighth Avenue.



FIGURE 8.40 Wildflower Straightaway. (Photo: M-L. Hoedemakers).

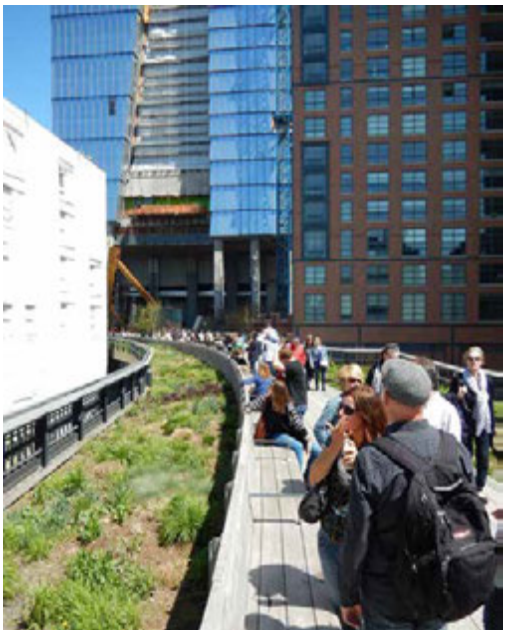


FIGURE 8.41 Wildflower Bend. (Photo: M-L. Hoedemakers).



FIGURE 8.42 Hudson Yards Section. (Photo: Author).



FIGURE 8.43 View north along Eleventh Avenue. (Photo: Author).

Beyond the Woodland Flyover the line continues in a profile of off-centre planking pathway for two blocks, passing through the Wildflower Straightaway. This area is planted with a variety of species that grew on the deserted line, supplemented by flowering perennials [Figure 8.40]. Tall apartment buildings rise at varying distances on all sides, creating a vast urban 'canyon', dominated by the first stage of the Hudson yards development, the 270 metre high (52 storey) Coach Tower under construction in the axis of the line. At 29th Street the viaduct begins a long sweeping arc to the west, which will eventually bring us perpendicular to the Hudson. This curve is edged by a long radial bench, which runs for more than a block through Wildflower Bend [Figure 8.41]. At the junction with 30th Street, a lift and stairs allow access to street level. Across 30th Street, the Tenth Avenue Spur, an offshoot of the High Line that leads back along 30th Street to the former Morgan General Mail Facility, now passes under the angled columns of the almost-completed Coach Tower.

Rounding the bend we arrive in a vast open space in the city fabric formed by the Hudson Shunting Yards. Trains stand row on row in a vast rectangular pit around which the High Line circles in three long stretches. The first stretch of the High Line heads due west, orienting the visitor for the first time towards the immensity of the Hudson River and New Jersey beyond [Figure 8.42]. With each step the city is left increasingly behind us, and another kind of environment encroaches on our senses. The sky is vast, its blueness envelopes our senses, and a light silty breeze greet us for the first time. These sensations



FIGURE 8.44 Night view Beam Exploration area. (Photo: Author).



FIGURE 8.45 Entrance Section three. (Photo: Author).



FIGURE 8.46 Tiered Bench, Hudson Yards. (Photo: Author).



FIGURE 8.47 Park Entrance 34th Street. (Photo: Author).

distract us from the details of the High Line too, although we may still note that the modular concrete planking covers most of the width of the line here, with only sparse plantings between the flutes. Crossing Eleventh Avenue, our attention is distracted sideways over the Hudson Yards to an assortment of towers heading north along the Hudson, but they seem suddenly to lose their interest for us [Figure 8.43].

A little further on, a lookout platform raised a few metres above the deck gives us a vantage point to view across the Hudson and back to the city behind us. Returning to this spot later in the evening, the lights of New Jersey mark the horizontality of the suburban landscape, so different to the verticality of Manhattan [Figure 8.44]. Just past Eleventh Avenue, the planking skirts around the Beam Exploration Area before stopping altogether and transitioning to a simple resin-bound gravel path. The pathway curves around the outer edge of the viaduct, with the rest of the rail bed more-or-less intact [Figure 8.45]. Rusty steel rails surface now and then through a carpet of herbs and grasses, while an occasional specimen of Chicory, Butterfly Bush or Queen Anne's Lace struggles skyward.

As the walkway curves around and heads north, a double-sided tiered bench offers views across the river and back to the skyline of Manhattan [Figure 8.46]. It is busy here, people linger and chat, or gaze in contemplation across the water. Finally, the long arc of the line directs us back towards the city on the other side of the shunting yards, returning us to ground level on 34th Street. Our tour ends with a simple passage through a mesh-wire fence onto the sidewalk of 34th Street [Figure 8.47]. How different the end of our tour is to the drama and spectacle of the Gansevoort Street entrance. Taxis and busses jostle along the six-lane thoroughfare, and pedestrian scurry past with barely a glance our way. We wave down a taxi and, with a last glance back towards the Hudson and the High Line, disappear back into the city.




FIGURE 8.48 Plan configuration of the High Line. (Drawing: Bas de Jong).

## 8.5 Review of the Scheme as (Compositional) Procedures

### 8.5.1 Basic Form

In contrast to the layouts of Parc de la Villette and Duisburg-Nord, the High Line is delineated by the limitations of the railway trestle: its elevation nine metres off the ground, its width (varying between

nine and 27 metres), and its 2.4 kilometre length. This condition plainly limits the ability (and need) to superimpose any new figural geometry into the layout of the scheme. We can however, note the plani-metric arrangement of different surfaces textures and features, in particular the layout of the concrete planking-planting decking [Figure 8.48]. The organization of this decking detail is configured using a system of striated concrete planking specifically designed for the scheme, based on a modular unit measuring 0.3 x 3.7 metres. This modular system allows for a transition from a completely closed surface to a completely open surface, with the resulting 'hardscape' covering roughly half of the surface of the viaduct. Aligned as they are in the direction of the former train lines, the modular planks form bundles of lines running the length of the trestle. For most of the park this bundle is singular, but in various sections it branches into two, and at other points becomes a surface, sometimes covering the entire trestle. At two points the concrete decking is replaced by steel decking in the form of perforated sheet metal and steel grilling (Woodland Flyover & Thirtieth Street Cut-Out). It also makes way briefly for timber decking at the Tenth Avenue Square and the Tenth Avenue Spur. In addition, in the Hudson Yards section (stage three) some areas include reconstructions of the original train lines, complete with steel rails and wooden sleepers. The last few hundred metres of the line around the Hudson Yards are finished in a simple bonded gravel.

Between and around these hard surfaces (and beneath the steel decks) we can find a mosaic of vegetative 'textures' including woodlands, thickets, grass-lands, herb-lands, lawns, and a wetland. These plantings use over 400 species, including over 200 perennials, 36 grasses, twelve vines, almost 50 bulbs and over 100 varieties of trees and shrubs.[358] Their arrangement complements the hard surface configuration of the line, creating diverse spatial, visual and sensorial environments.

## 8.5.2 Spatial Form

To elaborate the spatial dimensions of the scheme and its context, the spatial breakdown of the scheme is carried out at two scales: the macro scale of High Line and its urban/landscape context, and the meso scale of the line itself in that environment. Using a series of sectional-perspective projections, a range of situations along the line are elaborated.

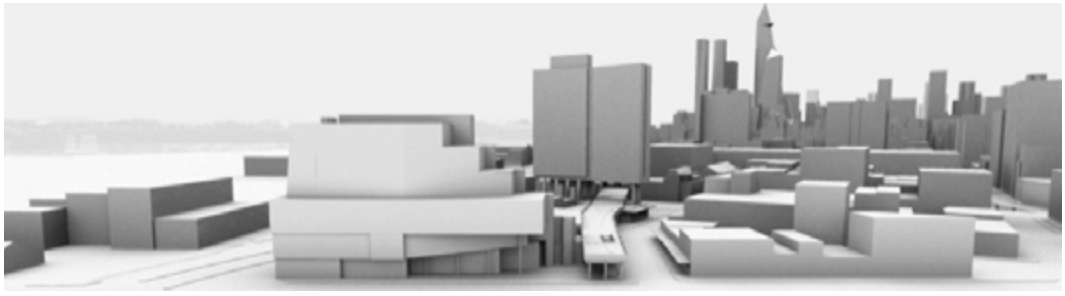


FIGURE 8.49 Sectional view of the High Line and environs (macro scale). Gansevoort Street, looking north. (Drawing: Jan Ferman).

358 JCFO, Diller, Scofidio + Renfro, 2015.

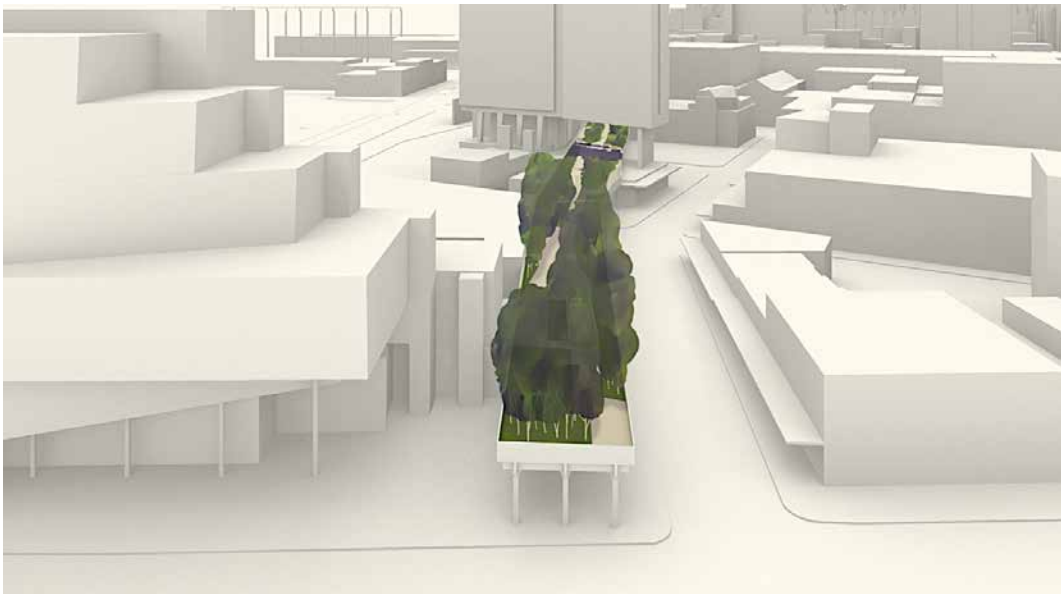


FIGURE 8.50 Sectional view of the High Line and environs (meso scale), Gansevoort Street, looking north. (Drawing: Jan Ferman & Bas de Jong).



FIGURE 8.51 Sectional view of the High Line and environs (macro scale), Little West 12th Street, looking north. (Drawing: Jan Ferman).

**Meatpacking District.** The first part of the review focuses on the southern end of the High Line in the Meatpacking District. At the macro scale, the scheme in this section is spatially dominated by the newly-built Whitney museum's 40-metre high bulk, the 70-metre high Standard Hotel three blocks away, and the spectacular skyline of Manhattan in the middle distance [Figure 8.49]. At the meso scale, the rail trestle is flanked by the stacked series of galleries of the Whitney, and the assortedlow-rise buildings in the Meatpacking District [Figure 8.50]. The design of the new Whitney generates is a cascading series of public decks, each with a public terrace offering views over the High Line and Manhattan. Intriguing in the design of the museum is the choice to orient and detail the decks in relation to the High Line, and not the more obvious orientation towards the Hudson River itself.

Plantings in this first section of the line form two distinct spatial conditions: a volume of vegetation for the first hundred metres, followed by open grassland environment up to the Standard Hotel underpass. As spatial motifs, these two milieus - a lush tree canopy and open grassland – resonate with the (garden) scenes of Parc de la Villette: micro-landscapes staged along a route, amidst a cacophony of (urban) landscape spatialities around it. And as at Parc de la Villette, the experience of these scenes can only be had via bodily (walking) movement, a journey starting with the climb up the steps from street level, followed by the passage under the trees and through the grasslands. Walking is thus a prerequisite for spatial orientation and experience of the High Line as it cannot be overviewed in its entirety from one point. A similar rule applies to much of the urban landscape around it; only by walking to Little West 12th Street does the visitor come into visual contact with the Hudson, or gain views across town through Manhattan's streets [Figure 8.51].

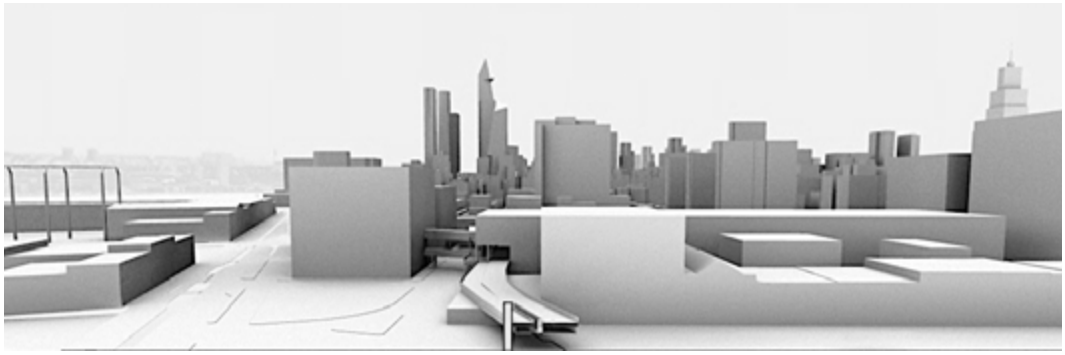


FIGURE 8.52 Sectional view of the High Line and environs, West 14th Street, looking north (macro scale). (Drawing: Jan Ferman).

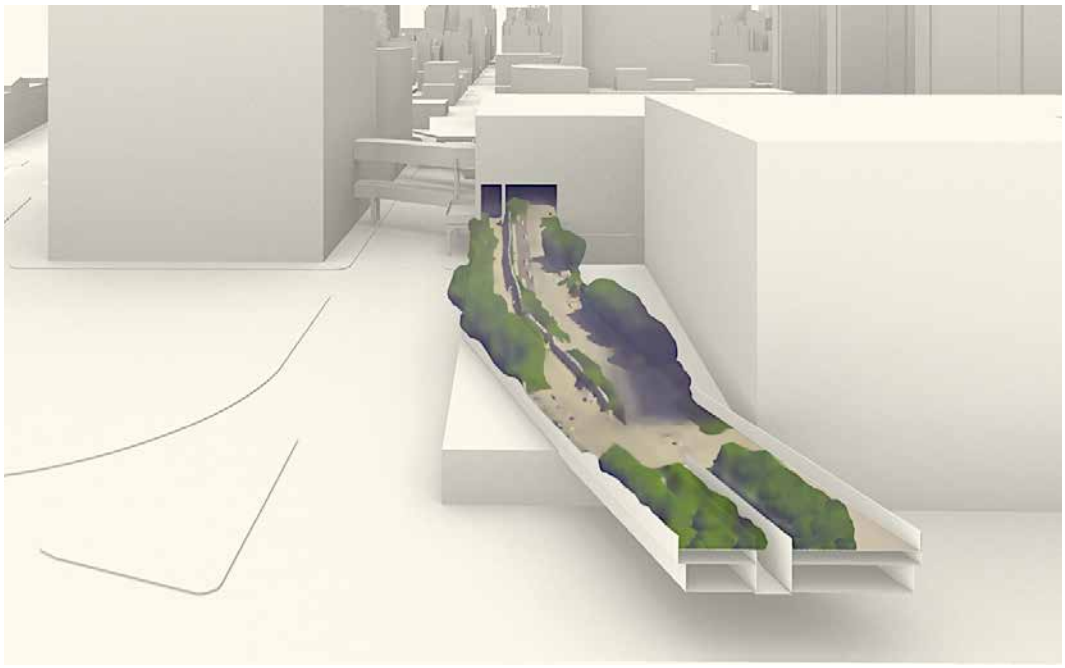


FIGURE 8.53 Sectional view of the High Line and environs (meso scale): *Sundeck Strip*, looking north. (Drawing: Jan Ferman & Bas de Jong).

Plainly inspired by its former use, movement through these landscapes has the steady and even cadence of a train journey, and with the surface of the park 'floor' smooth and level so that little concentration and effort is needed to walk it. The configuration of the deck planking also indicates the direction of movement. Moreover, while the variable mosaic of planking and planting dissolves the distinction between path and plant bed, it remains a hard surface with a pronounced floor-like feel to it, which does not generate the haptic experience of a path through a 'natural' woodland or grassland. In addition, the plantings - in particular the Washington Grasslands – are a decidedly domestic spectacle, invoking the perennial borders of Victorian gardens. This fixed architectonic 'grammar' continues beyond the Washington grasslands, where the park passes under a warehouse building through a tunnel-like passageway, before arriving in the Sundeck Strip [Figure 8.52]. This is the point where the park fronts onto the Hudson for the first time, a situation that only repeats itself once more in the final stretch of the park around Hudson Yards. Views can be had across to the New Jersey waterfront, and to landmarks in the New York Bay. The orientation towards the river informs the design at the micro scale, with the splitting of the deck here bolstered by plantings of *Ailanthus* on the lower deck and a wetland/grassland on the upper deck [Figure 8.53]. Attention to the visual – in particular views across the Hudson - reinforces the architectonic spatiality noted above.

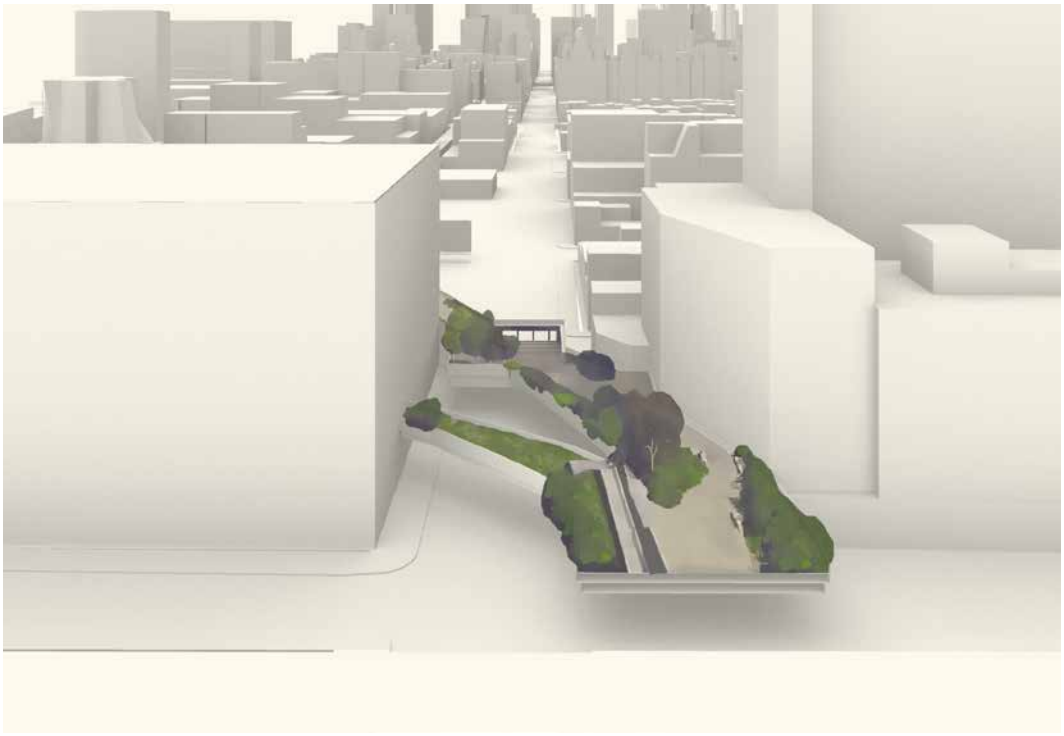


FIGURE 8.54 Sectional view of the High Line and environs (meso scale): *Sunken Overlook*, looking north. (Drawing: Jan Ferman & Bas de Jong).

At the same time, the focus towards the Hudson visually reinstates the larger territorial relationship of Manhattan to its unique underlying landscape form. In one glance, the view takes in the Manhattan grid, the shoreline, the waters of the Hudson, the shoreline of New Jersey and the visual icons in the New York Bay, such that the ubiquity of the city and its grid is replaced by a unicity of urban and natural landscape schemas coming together to define this particular place.

**Chelsea**. Beyond the Sundeck the line passes beneath a third building – the Chelsea passageway - where two rail spurs leads off to former warehouses from the lower level. The lower section of the park ends in the northern spur reserve, while the upper level continues in a sweeping arc over Tenth Avenue, where the sunken overlook, a stepped seating amphitheatre dropping down to a glazed façade, overlooks the Avenue to the north [Figure 8.54]. This feature illustrates the spatial integration of city and park in the scheme, whereby the cavernous axis of Tenth Avenue (and its six lanes of bustling New York traffic) is incorporated as visual spectacle into the park. In this approach the scheme continues the design tradition of staging urban features in the thresholds of parks typical of many nineteenth century municipal parks.

At the 18th Street Plaza, seating to one side of the trestle offer spectacular views over the Manhattan skyline [Figure 8.55]. From here, a colourful carpet of grasses and perennials (Chelsea Grasslands) stretches to 20th Street, emphasizing the openness of this section, such that - together with the openness of the sky above - an enveloping sense of landscape space is created. On the line itself, the scheme has a simple spatiality to it: a floor of concrete planking interwoven with a low blanket of grasses and perennials [Figure 8.56].

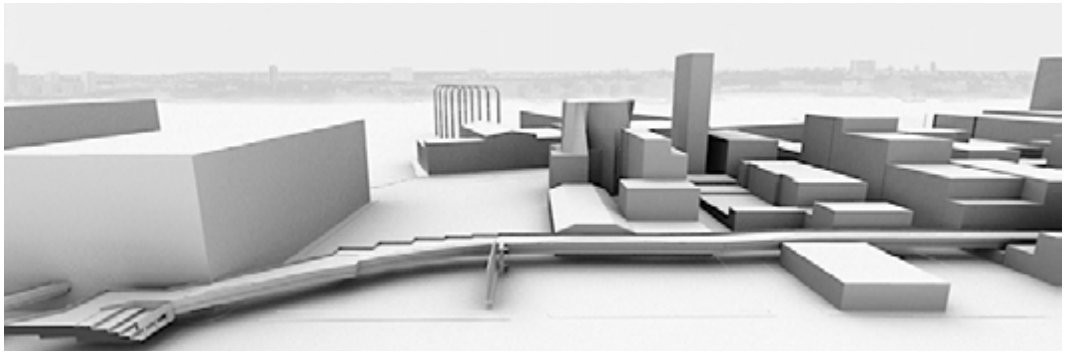


FIGURE 8.55 Sectional view of the High Line and environs (macro scale), 18th Street plaza, looking west. (Drawing: Jan Ferman).




FIGURE 8.56 Sectional view of the High Line and environs (meso scale): *Chelsea Grasslands*, looking north. (Drawing: Jan Ferman & Bas de Jong).

What this feature does however – in conjunction with the landscape spatiality of this zone - is introduce an auxiliary quality to the scheme's spatial syntax: the synaesthetic. As the pathway weaves through the plant beds, visual sensations are augmented by scents - and the occasional touch - of flowers, herbs and grasses, 'awakening' other senses to perception of the environment. In the visually dominated modern city, this sensorial awareness is triggered as it were by the intensity of the planting (design). The veracity of plant material moreover, contrasts with the weightlessness and 'immateriality' of the New York cityscape (in particular the modern building materials). Once triggered, the non-visual stimuli of the city are also gradually made part of the sensorial stimuli: sounds from the street below – car horns, pedestrian voices, and the occasional smells of coffee and cooked food – mix with the sensations evoked by the planting. Our senses also become more receptive to the presence of other park users, not only visually but also bodily. This encounter with the physical, the sensual and the embodied, suggests an extra dimension to earlier observations, in particular the architectonic spatiality noted in the Meatpacking district.



FIGURE 8.57 Chelsea Grasslands 2011. (Image: Google Street View).



FIGURE 8.58 Chelsea Grasslands 2015. (Image: Author).

Given the dramatic changes to the built form of the city in this zone however, whether this synaesthetic dimension persists is questionable. Comparing Google Street View images taken in May 2011 with images from a site visit in May 2015, the rapid growth of apartment towers around West 19th Street is transforming the Chelsea Grasslands into a street-like corridor framed by apartment blocks [Figure 8.57 & 8.58].

Critically too, the synaesthetic quality of the Chelsea Grasslands is not a continuous condition of the scheme; from West 20th Street onwards, the grassland transitions into the Chelsea Thicket before entering a campus-like enclosure formed by apartment buildings towering either side of the line. Here, a block-long stretch of lawn creates a decidedly college-like quadrangle environment in which visual characteristics and Euclidean space dominate [Figure 8.59]. The synaesthetic does make a return however at the flyover between 25th and 26th Street, where the raised steel walkway passes through a woodland of *Ailanthus* and *Magnolias*, giving access to spurs to sit and relax beneath the tree canopy, surrounded by sensorial stimuli. The blind towering walls of adjacent apartment blocks close off the visual stimuli from the city here, so that immersion in a vegetative environment is more intense.

**Hudson Yards.** The synaesthetic quality persists beyond the woodland flyover, where the planking weaves its way through the Wildflower Straightaway and Wildflower Bend. This area is planted with genera that grew on the deserted line, bolstered by flowering perennials and grasses. Tall apartment blocks rise in this section on all sides however, creating an urban canyon dominated by the rising bulks of the Hudson Yards development under construction, with the 270 metre high Coach Tower standing on the axis of the line. The 'retroactive restructuring' of city and park noted at the Tenth Avenue Overlook finds its urban twin with this building, aligned as it is in the axis of the 2km long stretch of the line back to the Tenth Avenue Overlook. At 29th Street, the viaduct begins a long sweeping arc to the west, which will eventually bring it perpendicular to the Hudson River [Figure 8.60]. In the macro scale sectional view, the spatiality of the line changes dramatically at this point, not only because of enormous spatial impact of the Hudson yards development, but also because the line changes its direction to move perpendicular to the river, including a major offshoot of the line in the opposite direction – the Tenth Avenue Spur - leading back along 30th Street to the former Morgan General Mail Facility. The game of interaction between city and park seen at the overlook is less successful here however, with the park space passing under the angled columns of the Coach Tower creating an urban, street-like space. Gone too is the autonomy of the line with its idiosyncratic language of floor, plants and sky – what remains is a raised thoroughfare not dissimilar to a sidewalk space in the city.

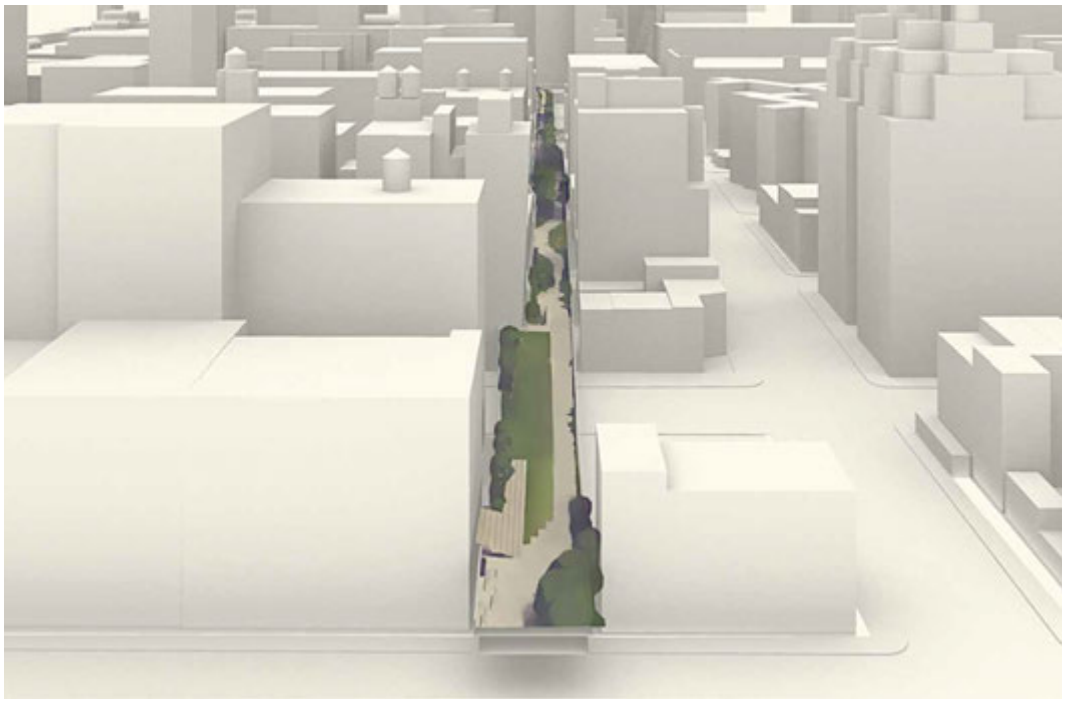


FIGURE 8.59 Sectional view of the High Line and environs (meso scale): *West 22nd Street Lawn*, looking north. (Drawing: Jan Ferman & Bas de Jong).

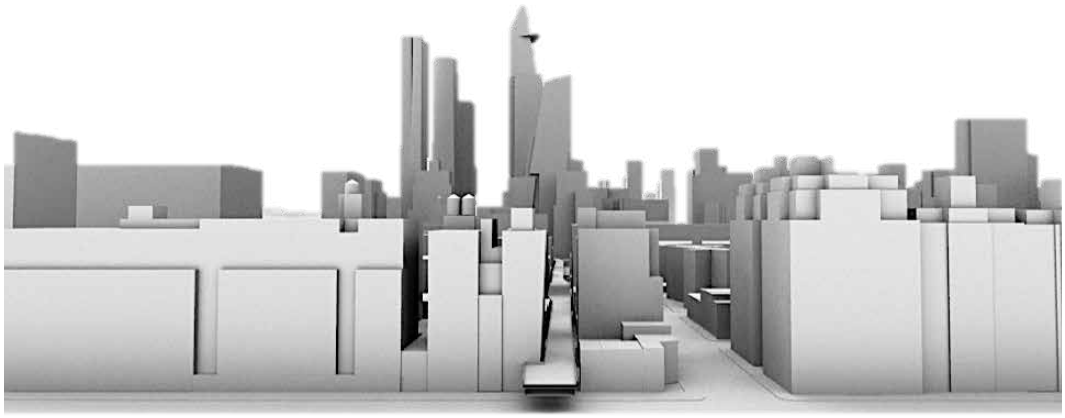


FIGURE 8.60 Sectional view of the High Line and environs (macro scale), Woodland Flyover, looking north. (Drawing: Jan Ferman).



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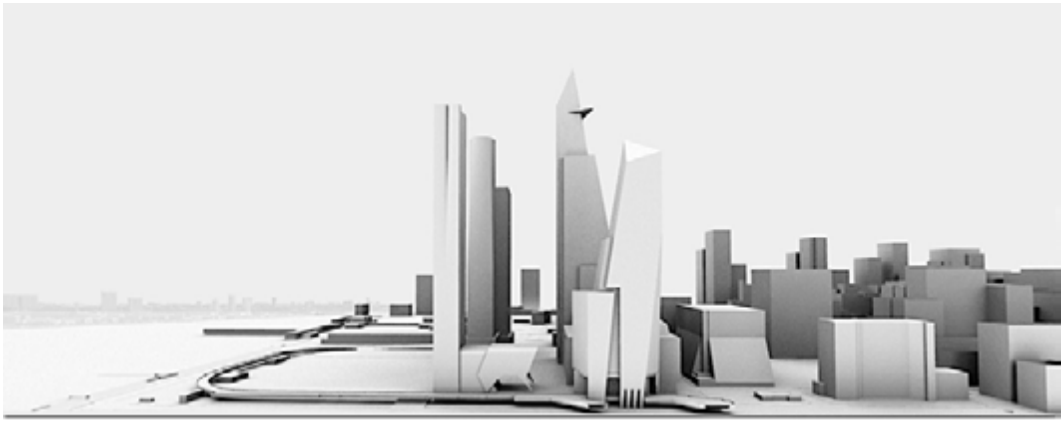


FIGURE 8.61 Sectional view of the High Line and environs (macro scale), *Hudson Yards*, looking north. (Drawing: Jan Ferman).

The contrast between this section and the last stretch of the line around the Hudson Yards could not be greater. A dramatic spectacle unfolds beyond the Coach Tower, with the vast urban void of the Hudson Shunting Yards to the right, the waters of the Hudson and the skyline of New Jersey to the west, and an immense open sky above [Figure 8.61]. This collage of different scenes resonates with the notion of panoramic perception elaborated in nineteenth-century parks such as Parc des Buttes Chaumont, whereby a visual 'snapshotting' of different landscapes from a speeding train was translated in a staccato of scenes within the park. Reflecting this approach is the choice for a sober planting scheme in the first stretch of this section, and the complete absence of a planting scheme for the last few hundred metes of the line. Here the rails are left as they are, emulating the spontaneous vegetation that grew on the original deserted line. The park user is literally a moving locomotive, shunting over the rails as the mosaic of scenes flash by. At one point the passenger may alight stops at a 'station' above the Hudson river parkway - a seating element in the form of a stepped *perron* [Figure 8.62]. Those who alight the train can gaze for a time across the river, or back to the skyline of Manhattan, from the platform. As befits all stations however, this is only a transitory place, and with the 'train' soon returning, the park visitors rises and boards, to shunt their way forward in a measured locomotive rhythm down to the 'end of the line' at street level on 34th Street.

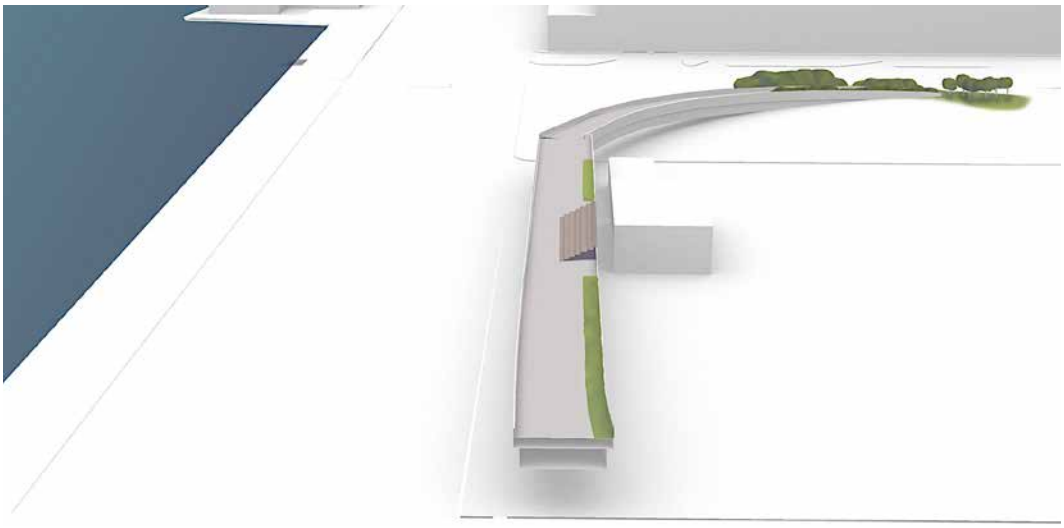


FIGURE 8.62 Sectional view of the High Line and environs (macro scale), *Hudson Yards*, looking west. (Drawing: Jan Ferman).

## 8.5.3 Programme Form

The programme form analysis is divided into three parts: a survey of the access and circulation design, including access and entrance points and movement design; the review of programme on the High Line itself; and an inventory of the key amenities and attractions in the adjacencies of the park, which directly or indirectly form part of the programmatic mosaic of the scheme.

**Access and Circulation.** One of the singular features of the High Line is its highly defined set of access points due to its raised position above street level. These access points are resolved with a total of twelve stairways spaced along the line, complemented by five auxiliary elevators for disabled access [Figure 8.63]. Notable is the architectonic resolution of these details, which resonates strongly with built structure (composition), a detail that returns in the discussion. Once on the line, the primary functional 'motif' of the scheme is movement - specifically walking - an activity for which the mosaic detail of concrete planking and planting has been purposely designed. Different configurations of the deck enable specific kinds of walking, such that each zone boasts subtly different kinds of 'ambulation'. To the south, where the line passes through the Meatpacking District, the walkable parts of deck are wider, and branch off to create multiple walkable zones. Three covered passages moreover, are completely paved over, allowing free movement across the viaduct. Also included are extra programmes such as art fairs, markets, food stalls and cafes. The combined effect of these measures means that the dominant mode of ambulation in this zone is 'strolling' and 'promenading'. From the Tenth Avenue Square to the Hudson yards, the mode of walking changes to what might best be described as 'drifting' or 'wandering'. These modes are determined by a planking-planting detail that forms a single, relatively narrow walking path meandering from one side of the trestle to the other. Once the line turns towards the Hudson River at the Hudson Yards, the detailing of the deck planking changes again. For the first few hundred metres most of the trestle is covered with planking, such that the space works much like a square, which one can amble across at will. In the final stage beyond Eleventh Avenue by contrast, movement is confined to a narrow path that hugs the outer edge of the viaduct; here the mode of movement is a measured linear 'march', resonating with the steady rolling progression of a train.

**Programme on the High Line.** Auxiliary to the functional motif of movement is a series of programmatic features that augment the different modes of walking. Lookout points located in the Hudson Yards section (Hudson Yards Lookout), Chelsea section (26th Street Viewing Spur), and Meatpacking section (Tenth Avenue Overlook, Sundeck, and Gansevoort Overlook) are programmed to facilitate views to the city, but they also create places to pause or sit, and by extension to observe and be observed [Figure 8.64]. Two zones demonstrate this approach in particular: the Sundeck and the Sunken Overlook. At the Sundeck, the path is squeezed between a water feature and a series of chaise lounges so that walkers are forced to interact with those reclining, and vice versa. At the Sunken Overlook, people sitting and watching the traffic below are also watched by park visitors on the square above them. Seating pieces oriented inwards towards the line itself, such as the 23rd Street Seating Steps and seating alcoves in the Woodland Flyover Spurs, generate similar patterns of behaviour and interaction. Next to the 23rd Street Seating Steps is a stretch of lawn that allows park users to recline on the grass, picnic and play as they would in a traditional park setting.

Not all programme however, is focused towards social interaction between passers-by; other features accommodate activities and interaction in their own right. The Hudson Yards section includes a Rail Tracks Walk and Beam Exploration Area, features that tell the story of the former line by preserving the tracks and exposing the underlying steel beam structure. Additionally, three covered sections - the Standard Hotel Underpass, the 14th Street Passage and the Chelsea Passage - are programmed with art fairs, markets, food stalls and cafes. While these functions may be said to be park-like in




FIGURE 8.63 Programme form of the High Line: access & circulation.(Drawing: Bas De Jong).



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FIGURE 8.64 Programme form of the High Line: Features & Functions.(Drawing: Bas De Jong).



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their ambience, they resonate strongly with functions occurring immediately below the High Line, in the increasingly tourism and leisure-oriented West-Side; indeed these programmes elicit highly conventional public space behaviour and social patterns.

The programmatic range of the scheme thus oscillates from an essentially un-programmed walk to a dense mosaic of urban leisure programme. This urban leisure programme, and associated blurring of the threshold between park and city, is further enhanced by two recent features built next to the park, with entrances on the High Line: the newly-completed Whitney Museum on Gansevoort street, and the soon-to-be-completed visual and performing arts centre (Culture Shed) on West 30th Street.[359] The Shed's main entrance will be on 30th Street under the High Line, while the plaza will be directly accessible from the High Line.

**Programme in the Area.** The Whitney Museum and the Culture Shed are the first 'spin-off' architectural programmes adjoining the High Line, forerunners of other projects which will undoubtedly develop along the High Line in coming years. They also form part of a larger programmatic renaissance of the Lower West Side, in particular Chelsea and the Meatpacking District. Chelsea is a residential neighbourhood, with a mix of tenements, apartment blocks, city housing projects, townhouses, and renovated row houses, but it is also known as one of the centres of the city's art world, with over 200 galleries in the neighbourhood, mostly to the west of the High Line [Figure 8.65]. New York's arts community began a gradual move here in the late 1990s, when spiralling rents and competition from retailers for the gallery spaces chased them away from the former art district, Soho. In two decades the area of West Chelsea between Tenth and Eleventh Avenues has become a new centre of contemporary art, home to galleries such as the Rubin Museum of Art and the Graffiti Research Lab, and to performance venues such as New York Live Arts, the Joyce Theatre and The Kitchen. In the last decade, this milieu has also attracted fashion designers and associated retail outlets such as Comme des Garçons, Balenciaga, McQueen, Stella McCartney, and Christian Louboutin. Facilities for food and beverages have also expanded in recent years. The largest of these is the conversion of the ground floor of the former Nabisco Building to an international food market, but numerous smaller venues offer food and drinks. These functions form a vast 'carpet' of programmes around the High Line, many of them only separated by a stairway and a short walk. Moreover, the alignment of the viaduct offers an easy and attractive alternative connection between venues, such that a composite experience of art-viewing, shopping and consumption can be had by using the park as a connecting backbone.

As such, the programme form of the park cannot be properly distinguished in isolation from these functions, a condition that contrasts strongly with the other case study parks, in particular Landschaftspark Duisburg-Nord. Likewise, the success of cultural development in the area cannot be separated from the success of the High Line as project.
Overlying this mosaic of cultural programme is a series of sports and recreation facilities in parks and playgrounds programmed for everyday use by local residents. The Hudson River Greenway is a network of infrastructures for cyclists, skaters, joggers and walkers hugging the shoreline of the Hudson, interspersed with picnic lawns and skating facilities. Six playgrounds and three sports fields are spread over eight small neighbourhood parks. The cumulative programme can be grouped into four main categories: sports & recreation, experience & contemplation, social gathering & events and hospitality & services.

359 The Whitney museum covers an area of 19,000 m2 over eight stories, and includes gallery spaces, an education centre, theatre, conservation lab, library, cafe and reading rooms. Observation decks on the fifth, sixth, seventh, and eight floors are linked by an outdoor staircase. The Shed, a 16,000 m2 visual and performing arts centre includes 3,700 m2 of exhibition space, 2,300 m2 of museum-quality space, a theatre with seating for up to 500 people, and an expandable 1,500 m2 movable canopy, which can close and open within fifteen minutes. When the shed is retracted, an open-air plaza will be publicly accessible and can accommodate events and audiences.




FIGURE 8.65 High Line: area programme. (Drawing: Bas De Jong).



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## 8.5.4 Image Form

While the spatial form analysis has revealed to us the visual, kinaesthetic and sensorial aspects of the scheme, the meanings conveyed (and interpreted) in the park are an additional layer of design information – and intent. Indeed, the High Line and its surroundings are replete with signs, symbols and other external phenomena that give rise to mental associations and narratives.

**Meatpacking District.** Elevated as it is along its entire length, one of the strongest mental associations generate by the scheme is that of a balcony or gallery. This association is powerfully established at the southern end of the park by the detail of the Whitney Museum, which is detailed on the park side as ship-like structure with a series of public balconies [Figure 8.66]. The net result is the vision of a ocean liner with cascading decks, whereby the High Line is transformed in our perception to its 'lower deck'. This vision is bolstered by the glimpse that can be had of the Hudson River and the New Jersey waterfront beyond. Closer in however, this association is radically altered by the detailing of the (underside of the) line, which reveals the gritty materiality of the viaduct's exposed beams and columns [Figure 8.67]. The mental association shifts to the shadowy images of the New York underworld, as evoked by the many films in which these structures feature.



FIGURE 8.66 High Line Structure, Washington Street 2015. (Image: Author).



FIGURE 8.67 High Line and Whitney Museum from Gansevoort Street, 2015. (Image: Author).



FIGURE 8.68 Rail lines and Planting, Meatpacking section 2015. (Image: Author).



FIGURE 8.69 Flowering Shrub, Washington Grasslands section 2015. (Image: Author).



FIGURE 8.70 Standard Hotel Underpass, 2015. (Image: Author).



FIGURE 8.71 14th Street Underpass, 2015. (Image: Author).



FIGURE 8.72 Sundeck Lounges, 2015. (Image: Author).

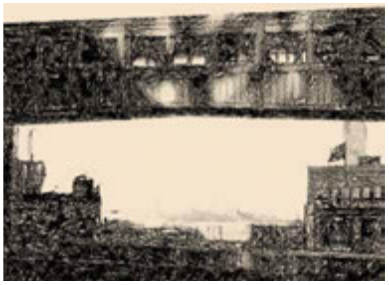


FIGURE 8.73 Statue of Liberty Vista, 10th Avenue Square. 2015. (Image: Author).



FIGURE 8.74 Sunken Overlook, Tenth Avenue Square 2015, (Image: Author).

Moving up on to the line itself, the association of a shadowy underworld shifts with the spectacle of disused rail lines weaving through woody vegetation [Figure 8.68]. This image triggers didactic associations of industrialization, interstate transport, and perhaps even the American West. The veracity of the image may also cause some to even visualize the trains and wagons that might have ran here. Above all however, the image is awash with tropes of nature: for some, the combination of railway line and vegetation is synonymous with the ravaging of pristine nature by man, an anti-wilderness; for others it may speak of the spontaneous and irresistible march of nature, a return to wilderness. Some perhaps, might also read in it a cultivated scene of harmonious coalescence between nature and man, a hybrid nature. This last interpretation is iterated further on, where an impressive array of rare and beautiful plants can be found between the rails [Figure 8.69]. This is clearly not the work of natural succession but of a skilled gardener, a border to rival those of great domestic gardens.

The coalescence of nature and man is also augmented by the spectacular views of the city beyond this garden belvedere. One's mind automatically associates the built environment and the border together as some kind of collective metropolitan garden. As we move on, the tropes of the metropolis overwhelm our mental perception: familiar buildings loom up in the middle distance, and the iconic New York wooden water tanks perched atop apartment buildings are framed beneath the straddling bulk of the Standard Hotel [Figure 8.70]. This image – and that of the underpass on 14th Street - evokes a colossal portico archetype [Figure 8.71].

The narrative of New York icons and architectural tropes continues in the Sundeck area, with the passage over 14th Street evoking the iron balconies of New York apartments, an image completed by the placement of lounges on remnant rails along the rear of the line [Figure 8.72]. But the most iconic image of all awaits us at the Tenth Avenue Square, where the Statue of Liberty on Liberty Island can be seen over the axis of Tenth Avenue, framed by the northern and southern spurs [Figure 8.73]. This classical replica of the Roman goddess *Libertas* symbolizes freedom from tyranny and oppression, and the new world American dream. Together, these features gradually build a layered narrative of New York, a story that already exists in our minds as a series of mental images generated by popular culture, but which now assumes physical form as a spectacle from the High Line.

In a fitting, if not sinister detail, the medium through which these images are produced has been replicated with the installation of immense windowed 'screens' in the sunken overlook, which transmit real-time moving images of Tenth Avenue to the seated public, 24 hours a day [Figure 8.74]. As such, the images of Manhattan's prolific street-life, with its scurrying people and traffic, are cleverly woven into this mounting, intoxicating 'Tale of New York'. The game of spectator and spectacle takes on an even more fantastical turn when the spectators begin taking pictures of other spectators watching the projected images of the city below [Figure 8.75].

**Chelsea.** The pattern of framing (real-time) images of the city is repeated at various points along the line, such as the 26th Street viewing spur [Figure 8.76]. Here a 5 x 3 metre open frame creates a visual border of the view down the cavernous axis of 26th Street. From the street, the image is as it were mirrored, to frame the park visitor observing the city [Figure 8.77]. In framing the viewer, the scheme also elevates the park-goer to visual spectacle, a phenomenon that has added visual interest due to the fact that the viaduct was once a non-pedestrian environment. Moreover, the image of the park users shuffling in train-like fashion along the line forms at once both a transitory and enduring image. Overall however, in the rest of the long straight stretch of viaduct running through Chelsea, it is the sensorial that dominates perception. Visual imagery is overtaken by the olfactory and haptic stimuli of the prolific planting, mixed with the sounds of car horns, pedestrian voices and the smells of food wafting up from below.

These synaesthetic stimuli 'mean' in a very different way: scents generate (emotionally charged) memories, while touch stimulates mental processes of orientation and awareness. At the same time, this planting has an aesthetic quality that generates visual delight: even visitors uninitiated in botany or garden plants cannot help but admire the planting. This beauty continues almost year-long: the buds of spring, the fullness of foliage in the summer, the colours in autumn and the shapes and forms of plants in winter.

This sensorial world is interrupted by the West 22nd Street Lawn, the campus–like rectangle of grass halfway along the Chelsea stretch [Figure 8.78]. The likeness to a campus harks back to the lawns of nineteenth-century American universities such as the University of Virginia. In this scheme by Thomas Jefferson, a lawn is the chief feature, terraced down to negotiate the steep topography of Charlottesville and flanked by a row of trees and educational pavilions. In contrast to the privileged exclusiveness of college lawns of English universities such as Oxford and Cambridge, the American university lawn such as Virginia reflected a spirit of community and domesticity, a distinctively new-world amalgam



FIGURE 8.75 Spectator & Spectacle, Tenth Avenue Square, 2015. (Image: Author).



FIGURE 8.76 26th Street viewing spur, 2015. (Image: Author).



FIGURE 8.77 26th Street viewing spur, 2015. (Image: Author).



FIGURE 8.78 West 22nd Street lawn, 2015. (Image: Author).

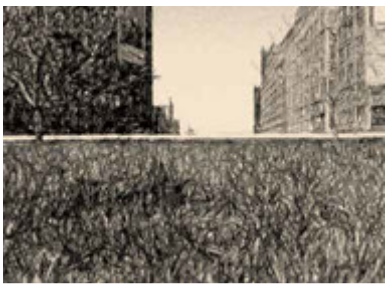


FIGURE 8.79 West 22nd Street lawn, 2015. (Image: Author).



FIGURE 8.80 Rail Tracks Walk, 2015. (Image: Author).



FIGURE 8.81 Beam Exploration Area, 2015. (Image: Author).



FIGURE 8.82 Bench Detail, 2015. (Image: Author).



FIGURE 8.83 Detailing of the planking surface, 2015. (Image: Author).

of "romantic pastoralism and democratic communalism."[360] Flanked as it is by mid-sized apartment blocks, whose many uncurtained windows engender contact between the park-goer and residents, the image of a pastoral community at the High Line is emphatically recreated. The pastoral in the image moreover, is reinforced by the remarkable visual connection of the lawn and the landscape of the Hudson River at 23rd Street, with the sight of New Jersey (and for some the entire imagined landscape of American West) mingling seamlessly with the manicured blades of grass at our feet [Figure 8.79].

**Hudson Yards.** As noted in the spatial form revision, the sensorial returns beyond the Lawn until the line changes its direction to move perpendicular to the river adjacent the Hudson Yards development. The imagery presented in this section is focussed on the history of the tracks and the trestle. The Rail Tracks Walk is a reconstructed section of the form and materials of the old line [Figure 8.80]. This evocation of the former world of the High Line is a straightforward example of museification: didactic imagery intended to transport the park-goer back to a (romantic) past. As such, this imagery contrasts to the referencing of American university campuses in the 23rd Street Lawn area with its associated evocation of the values and ideals that go with it. Similarly, the Beam Exploration Area exposes the structural underside of the viaduct with its impressive ironwork of I-beams, braces and columns, focussing on a didactic revelation of the architecture and engineering of this historical structure [Figure 8.81].

Its coarse, but at the same time ornate and decorative features however, also evoke the wrought-iron lattice aesthetic such as the works of Gustave Eiffel and other examples of Victorian architecture. As such, this imagery goes further that the Rail Tracks Walk by referencing neo-gothic architecture and associated ideals. Finally, the focus on the historical features of the line resonates in the imagery generated by the detailing of the planking surface and furniture in this section [Figure 8.82]. The inspiration of rail infrastructure with all of its formal and material idiosyncrasies is also patently expressed in the scheme's detailing [Figure 8.83]. These hybrid images reference both the world of rail travel and urban public spaces the world over.

## 8.6 Discussion

As a concluding step, the ecdysis of design-as-composition praxis (elaborating or revising from the Delft method) is discussed drawing on the cumulative findings of the various analytical steps. Where relevant, reference is also made to earlier case studies.

### 8.6.1 Designing without a Plan (Figure)

As noted in the Design Approach and Project Reception section, the site played a definitive role in the plan figure of the scheme, with the winning competition entry focussing on the qualities of the existing landscape. The extrapolation of these principals into compositional operations reiterates the ecdysis of site-specific praxis from Landschaftspark Duisburg-Nord to this project. Particular for

360 O'Malley, p. 85.

the High Line in this evolution is the limitations of the viaduct for the park layout, rendering the need for a new figural geometry for the park plainly redundant. Moreover, the literal groundlessness of the trestle presents a fundamental progression from Landschaftspark Duisburg-Nord, whose layout still embodied the underlying form of the former river valley it lay in, a morphology that informed the configuration of the original industrial complex. That the High Line scheme might also elaborate a similar 'hidden diagram of the territory' (such as the underlying natural landscape form of Manhattan) is examined by cross-calibrating the historical development review with the basic form breakdown. However, although the viaduct roughly follows the pre-European settlement shoreline of Manhattan Island, this factor has not played a role in any layout schema. Thus, aside from the idiosyncratic configuration of the viaduct itself (as it weaves its way through Lower West Side), the geometry of the High Line is limited to the configuration of various surface materials on the trestle.

In place of basic form configuration, the organization of surfaces forms a critical substitute in the High Line scheme. This step is the result of a close reading of the physical characteristics of the viaduct and its context, translated to a configuration of surfaces designed for specific kinds of movement and experience. Its instrumentality then is not the reduction, rationalization and activation of the topographic genius loci (from the amalgam of natural landscape, cultural landscape, and urban landscape), but the considered selection of relevant and suitable 'anatomies' from site and context [Figure 8.84].

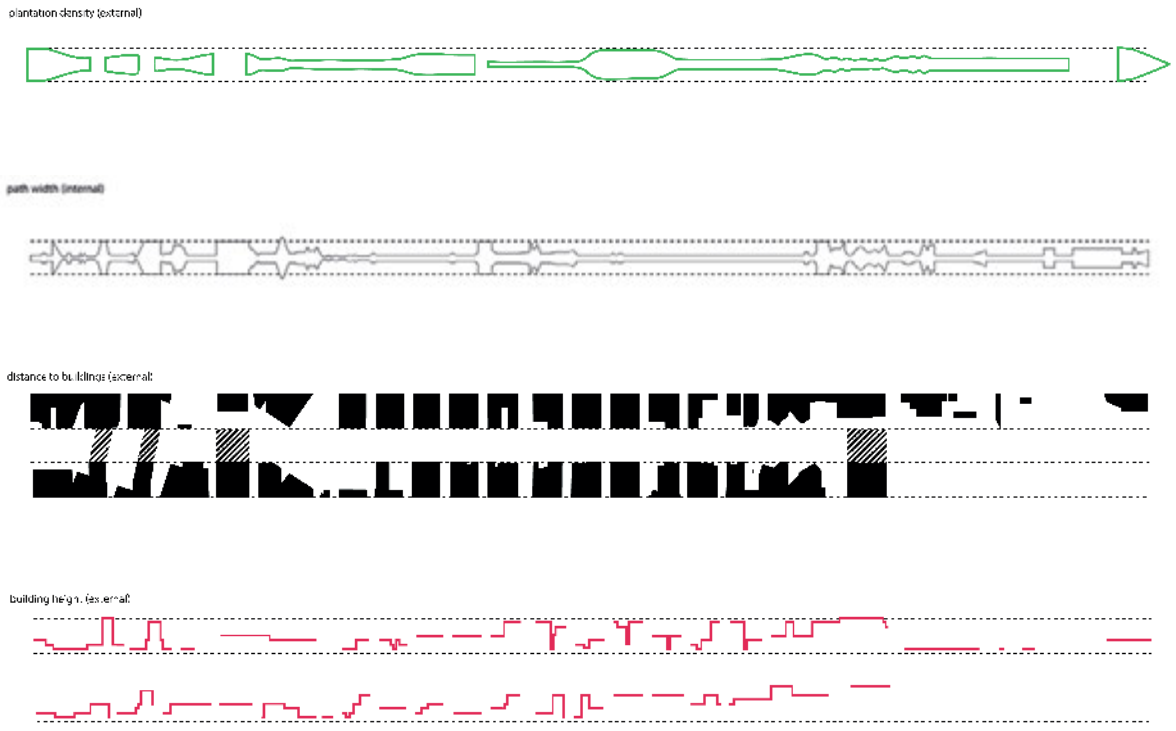



FIGURE 8.84 Plan projection of relevant 'anatomies' from site and context. (Drawing: Bas de Jong).



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### 8.6.2 A Multi-scalar Euclidean Environment

What is made clear in the breakdown into spatial form is that that the physical characteristics of the High Line - its elevation above street level, its extreme narrowness and enormous length, and the overwhelming spatial characteristics of its urban context - generates an extraordinary assemblage of forms and spaces. This unicity is amplified by the additions and alterations made by the design team to the trestle: micro-environments of plantings, elevated ways and platforms, depressions, walls and screens, lookouts, and access ways from street level. The interplay of these aspects generates a highly varied spatial environment resonating strongly with Euclidean spatial principles: environments made up of floor/ground, wall/edge, roof/ceiling elements, through which the park-goer passes at an even, level grade. In this the scheme can be considered an architectonic iteration of spatial form elaborated in the Delft framework, and also noted at Parc de la Villette. In this the scheme may be said to also expound the continuing criticality of formal-spatial considerations to the practice of landscape architecture. Noteworthy is the integrating of an existing axis at the Tenth Avenue Square, an approach that resonates strongly with Parc de la Villette, where the huge Bassin de la Villette ensemble is incorporated into the spatial structure of the park by positioning public galeries parallel and perpendicular to it. In essence, both schemes are involved in a kind of 'retroactive restructuring' of the visual integration of city and park, effectively inverting this nineteenth-century park design technique. By extension, the linking of the spatial schemas of the High Line and the Manhattan grid also extends the shift seen in previous case studies whereby the tradition of the aesthetic 'otherness' of the municipal park is largely abandoned. In this vision the park is not seen anymore as escape from the city, but a way of experiencing the city in a different way, as a novel new 'portal' to an otherwise known world. More radically, the city as antithesis to the notion of landscape is also abandoned in this approach; instead Manhattan is envisioned as a landscape on par with other North American landscapes. The motivation for this approach stems from the design team's intention to treat the city as a panoramic spectacle, thereby interpreting (and propagating) an iteration of landscape as being about a visually composed image of the world. In this frame, New York is a landscape as image-able and imaginable as the Rocky Mountains or the Great Plains. Paradoxically enough, this vision contrasts with interpretations of landscape as living milieu as championed by the chief member of the design team (James Corner) in earlier scholarship. And while this about-turn may be said to largely reflect the limitations of the project site to encompass an understanding of landscape as milieu, at the same time it also underlines the mandate of the profession to continue elaborating landscape as an aesthetic phenomenon.

### 8.6.3 Movement & Kinaesthesia

Paradoxically, the Euclidean spatiality of the scheme counters conceptions of the spatiality of landscape as being non-objectified, continuous and unlimited, insights elaborated by the chief member of the design team, James Corner in earlier scholarship.[361] This anomaly may be largely put down to the restrictions of the site and the brief however. Moreover, this circumstance allows a discussion as to whether and how visual perception and the experience of a designed landscape through movement are elaborated in a scheme with an apparently static Euclidean spatiality. As seen in the Duisburg-Nord scheme, the size of the site exceeds the boundaries of cognition and comprehension from a single

361 Corner, 1992, p. 147.

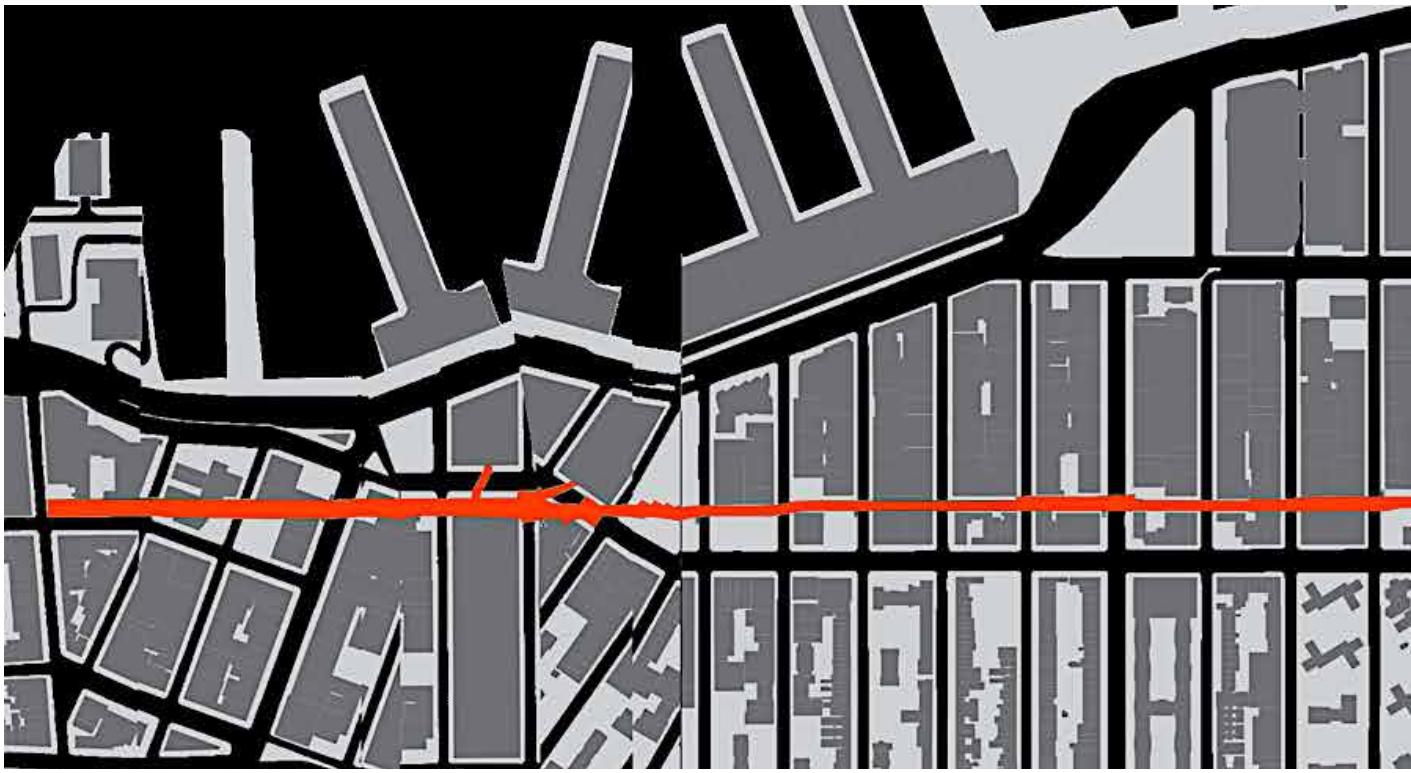


FIGURE 8.85 Spatio-temporal ensemble park and city. (Drawing: Bas de Jong).

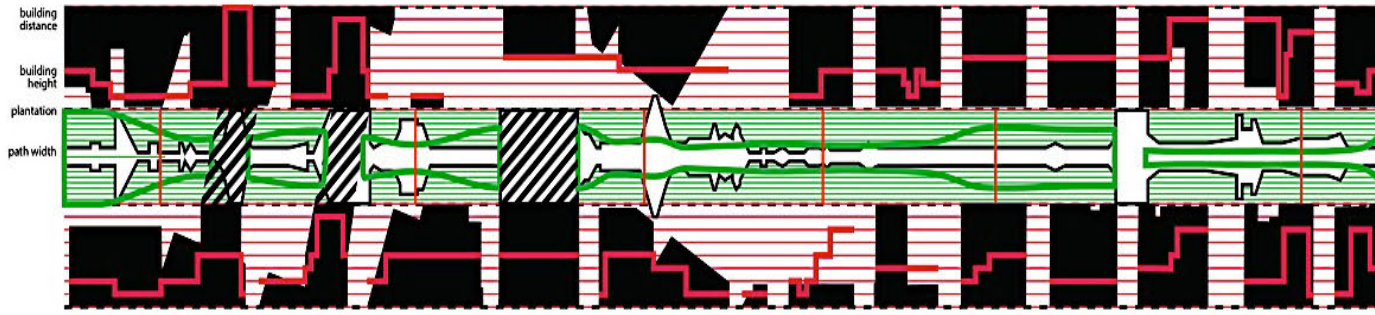



FIGURE 8.86 Kinaesthetic Schema of the High Line. (Drawing: Bas de Jong).

standpoint. The designers attempted to address this by working with systems of movement relating to different scales: while one visitor may apprehend certain areas of the park on a long-distance cycling tour, another may experience an entirely different section of the park on foot. In this way the size and multiplicity of the territory elevates motion experience to one of central importance. Although very much reduced in terms of area, the extraordinary length of the High Line emulates the situation at Duisburg-Nord.

The importance of movement in being able to comprehend the park returns us to the subject of kinaesthesia. The initial site tour revealed that only by walking the line can the disparate areas of the park be assembled into a spatio-temporal ensemble. Even by re-drawing this route as a straight line (with its urban context morphologically corrected) its sheer length precludes visual apprehension of the whole [Figure 8.85]. Combining the cadence of urban form with the features on the line itself in a



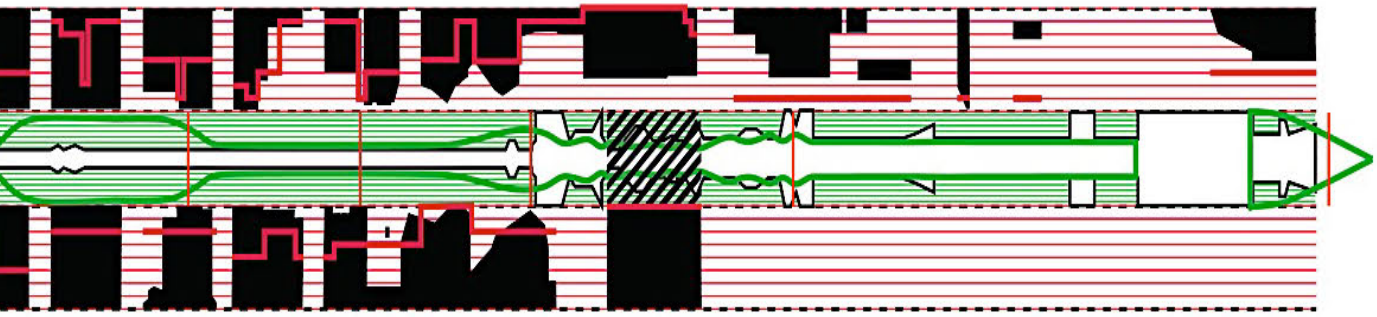


diagram however, reveals a multivalent kinaesthetic schema elaborating how movement activates the apparent static Euclidean spatiality of the park [Figure 8.86].

### 8.6.4 Synaesthesia

The Duisburg-Nord scheme revealed that a kinaesthetic environment also involves sensory stimuli that our body receives as we move. At the same time how the sensorial is developed and applied in the Duisburg-Nord scheme remains unclear. Sensorial stimuli pervade much of site but in different and contrasting ways. A similar situation arises at Parc de la Villette, where only localized articulations of the sensorial can be found in the theme gardens. On the High Line however, these ambivalences have

been better resolved, in particular in certain stretches of the project such as the Chelsea Grasslands. Here the sounds, smells and even feel of the carpet of grasses and perennials add a powerful synaesthetic experience to the already overwhelming spatiality of this zone. Visual sensations are augmented by scents and the feel of flowers, herbs and grasses, contrasting with the 'immateriality' of the New York cityscape. Other non-visual stimuli are also made part of a sensorial character of the park such as the sounds and smells of street-life below and even the proximity of other park users. This encounter with the physical, the sensual and the embodied generates an added dimension (to the kinaesthetic). There is therefore, good reason to contend that the synaesthetic dimension complements – and perhaps even counters - the otherwise Euclidean spatiality of the scheme, in a deliberate game of visual versus haptic; passage through the park is thus not just about visual perception but perhaps more accurately about a bodily experience of the site - and the city.

### 8.6.5 Site = Programme

In contrast to the schemes of La Villette and Duisburg-Nord, the High Line does not in the first instance appear to continue the ascendency of program(ming) in design-as-composition praxis. Compared to the programmatic richness and diversity of the Paris and Ruhr parks, the High Line is conspicuously un-programmed. Features included in the competition submission were left out of the realised plan, with the design team choosing instead to establish a set of design rules focussing primarily on activities such as strolling and interpersonal interaction. The scheme is effectively configured for walking: park visitors can stroll from one end to the other or for shorter stretches using one of the twelve entry/exits, taking in the various features of the park and its context. Walking is effectively enabled by the system of concrete planking extending the entire length of the rail trestle, a detail that also enables 'variations on a walk' such as ambling, promenading and roaming. Design detailing and regulations restrict related forms of movement such as skating and biking. Details and features such as seating areas, lookout points, lighting, art pieces and water features bolster these details.

Critically however, the project does resonate with one of the earlier schemes - Duisburg-Nord – in its handling of programme in relation to site. As at Duisburg-Nord, accommodating and configuring a pre-determined programme did not play a role in the design-technical elaboration of the scheme (as it did at La Villette). What is also contiguous to the Ruhr scheme was that no analysis was made of the programme, nor was a strategy developed to divide the programme across different layers to accommodate the demands of a brief. Thus, the programme configuration in the High Line scheme is driven by a matching of functions to site conditions based on the limitations of the viaduct, emulating the relationship between site and programme at Duisburg-Nord.

### 8.6.6 Sociology of a Walk

Strong correlations to both the La Villette and Duisburg-Nord schemes do appear in relation to the social dimensions of landscape design. The restriction of the programme to walking ostensibly returns the project to the nineteenth-century park tradition of promenading parks. The walk however, is not divided into different circuits as in these former schemes but forms one wide promenade 'for all'. It is also in many places wide enough to accommodate other functions and activities than walking, a situation that has led to all kinds of extra (and often temporary) activities appearing in the park. In this

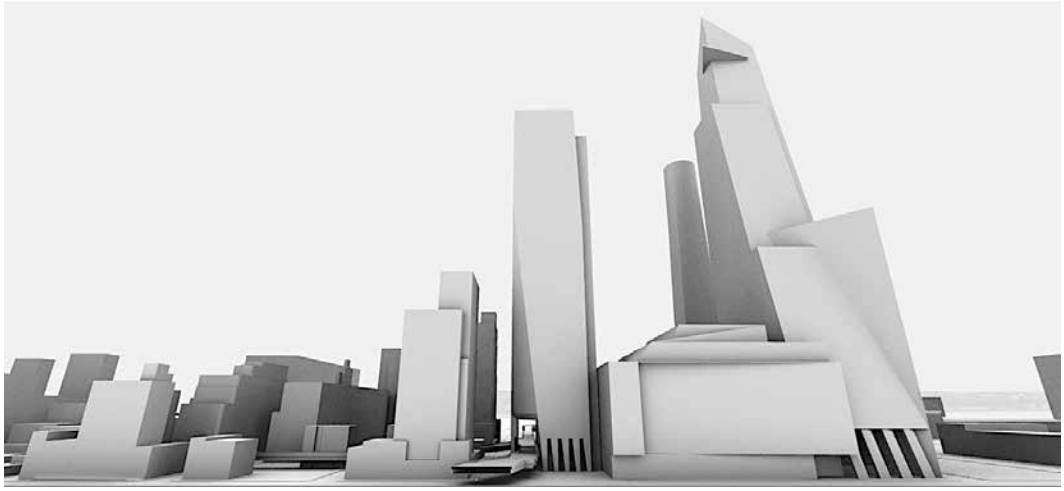


FIGURE 8.87 Impression of the High Line and environs: Hudson Yards. (Drawing: Jan Ferman).

sense it resonates with the mosaic of hardscapes in and around the blast furnace complex at Duisburg-Nord, where an open ground-scape is created with little prescriptive form. A similar ambiguity emerges in the High Line walk, inviting a colonization of the trestle by different user groups in varying patterns of occupation. This approach also echoes the approach at La Villette in orchestrating social processes through the choreographing of different programmes. As such, we can note a new mandate and instrumentation of the social dimension in landscape architecture in all three schemes.

### 8.6.7 First', 'Second' and 'Third' Places in and Beyond the Park

In relation to the generation of a mosaic of first, second and third places (as elaborated by the Duisburg-Nord scheme), we can observe that the High Line restricts itself primarily to the realm of first place. Considered in relation to its immediate context however, two important third place facilities 'attached' to the park - the newly-completed Whitney Museum on Gansevoort street, and the soon-to-be-completed Culture Shed on West 30th Street - form part of the growing cultural and recreational mosaic in the Lower West Side whose establishment the High Line can claim to have played a critical role in. It is also home to galleries, design houses, associated retail outlets, and food & beverage outlets, many of them only separated by a stairway and a short walk. These amenities epitomize the 'third place' realm. The High Line cannot be properly distinguished in isolation from these functions, a condition that contrasts with the other case study parks. Overlying this mosaic of cultural programme are the sports and recreation facilities in parks and playgrounds in the immediately vicinity of the High Line, which we can constitute 'second place' realms in social theory.

### 8.6.8 Embodying Processes

Comparing the High Line to the Duisburg-Nord scheme further, we can note a continuation of the shift in working with bio-physical systems and processes. Just as the Latz team worked with defunct infrastructures to create a circulation plan for the park, so too does the High Line translate a rail transportation system into a linear walk. This approach draws attention to the urban-infrastructural

systems that have formed the larger landscape of Manhattan and the New York region, expanding park design from its engagement with landscape as a formal construct (garden) to working with landscape as multi-scalar area (territory). Critically however, the attention to systems and process is limited to elaborating the urban-infrastructural system of the former rail line; there is little evidence for a working with ecological processes that so characterized the derelict line.[362]

Finally, the notion of process emerges from an unexpected direction: in the urban context of the park itself. As noted in the project reception review, the period since it's opening has seen a dramatic process of urban development in the area. The volatility of building activity around the line is evidenced by the development of the area around the Gansevoort section of the line in the few years since the opening of stage one [Figure 8.87]. These developments have accelerated the physical and social changes to the Lower West Side to such an extent, that the dynamics of urban transformation must be somehow considered in any operational framework of landscape architecture.

### 8.6.9 One Nature after Another

As revealed in the image form procedure, the spectacle of retained rail lines weaving through vegetation plainly generates didactic associations of industrialization and rail transport. The combination of these features with the extensive planting scheme however, generates a more complex set of narratives on nature and landscape: from an 'anti-wilderness' to a 'return to wilderness'; and from a scene of harmonious coalescence between nature and man to a hybrid nature of the cultivated garden. These tropes return to the triad of natures elaborated in the classical gardens and nineteenth-century municipal parks, such as recovered at la Villette. They also reveal how representations of nature have played a central role in the High Line's development, design, maintenance and publicity. Comments such as those by Sternfeld, who qualified the High Line as being more pristine than Yellowstone or Yosemite, clearly played a role in its re-purposing as public park. They established a reading of the site as wilderness, a motif which returns repeatedly in sections of the project. The design also indicates a continued focus on the idealized representation of nature, with recurring Arcadian scenes of a pre-industrial cultivated nature. Somewhat paradoxically too, the scheme also iterates a trope of nature emulating the 'disturbance' model of nature from Duisburg-Nord. In this frame the High Line can also be seen as a garden border, exemplifying cultivation and symbolizing the garden as a place of experimentation and dialogue between the gardener and nature.

### 8.6.10 Image Multiplicity & Scenography

The multiplicity of images of nature in the scheme, do compare however to La Villette and Duisburg-Nord in the manner in which interpretative aspects of perception are addressed. Whereas at la Villette

362 An exception here is the recently opened stage three section of the line, where the original railbed is left intact and botanic processes are left to run their course. The limited area and somewhat obligatory nature of this area can be challenged as a 'process' landscape. Also noteworthy is that biotic processes were included in the competition entries, with the first stage featuring nine themes in which growth could be explored and the second submission including the concept of 'Agri-texture' as a responsive system of material organization for ecological development. The idea of process is thereby expressed in the focus on the dynamics of plant material and the seasons, with the planting scheme geared towards displaying the cycle of a plant's life.

the *folies* introduce a shift in the interpretative dimension of composition (image form), from a fixed set of indexes, icons and symbols, to an assemblage of images allowing multiple interpretations, and at Duisburg-Nord the steelworks area is conceptualized as a metaphorical world open to multiple interpretations, on the High Line the images of nature mingle with the narrative of the city. Moving along the line, the image of the metropolis coming relentlessly to the fore. This constant production of images - of the city from and the High Line and of the High line itself from the surrounding city - reveal just how 'imaginary' New York can be [Figure 8.88]. Just as the city of images exists through the power of its pictures, it can also be said to only really exist to us by virtue of the ceaseless production and consumption of these images.

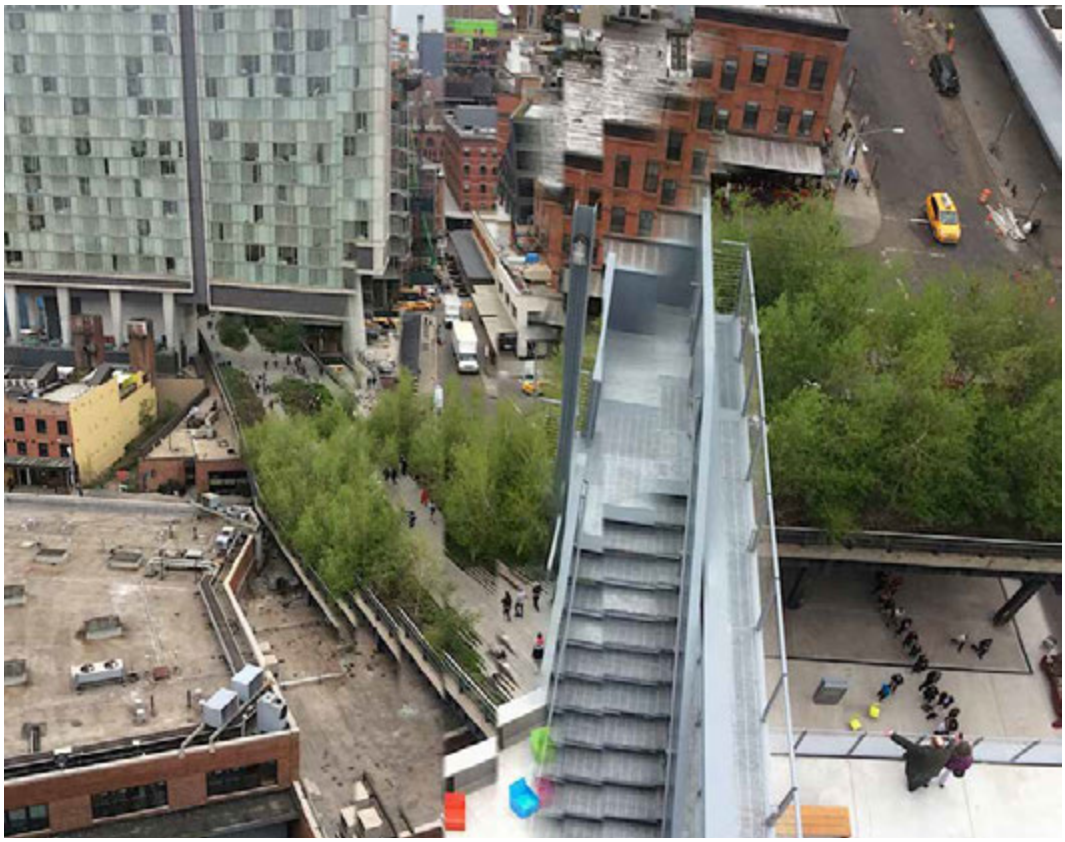


FIGURE 8.88 Compound view from Whitney Museum, 2015. (Image: Author).

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# PART 4 Conclusions, Reflection & Outlook



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# 9 Conclusions

## 9.1 Landscape Architecture as Multidimensional Praxis

My opening conclusion in the elaboration of composition as theory and methodology in landscape architecture, is the breadth of design dimensions engaged with in the brownfield park project. In the examination of three key park schemes realized in the period 1975–2015, a range of aspects manifest the multidimensionality of park design - and by extension landscape architectural praxis - in the urban realm.

In the case of Parc de la Villette, I note an elaboration of the social (via an innovative response to the brief's call to bring all walks of urban life together); an engagement with the aesthetics of city and landscape (via a semantic language drawing on pluralistic images of the contemporary city); an associated production of meaningful elements (drawing indirectly on tropes from the classical garden repertoire); an attempt to integrate motion and dynamic experience of space (by engaging the activity and experience of walking); and the manner in which the project addresses different urban landscape scales (by engaging with the geometries of the urban context and arranging the territory in a manner responsive to the surrounding urban tissue).

Multidimensionality emerges unequivocally in the second case study Landschaftspark Duisburg-Nord, where I observe an expanded set of design dimensions: the accommodating and engendering of social interaction (through an open ground-scape strategy inviting a 'colonization' of informal and cyclical occupation); an engagement with systems and processes that formed the territory (in particular the mechanisms of industrialization); an addressing of bio-physical and urban-infrastructural challenges of the greater territorial context (through a solution to hydrological problems and additions and linkages to the greenspace network of the Emscher Park); an engagement with the dynamic experience of landscape (through a kinaesthetic approach whereby visitors traverse previously off-limits environments in specific ways); attention to the sensorial experience of landscape (through an elaboration of the materiality of the site); attention to a new form of aesthetic elaboration of nature and landscape (whereby the trope of garden is used as metaphor to depict nature as human construct and dynamic system); a focus on the metaphor of time (as compared to history or historical tropes); and the generation of meaning through multiple and interactive narratives (via the production of a compound of appearances in which the park visitor plays an active role).

The High Line continues the manifestation of the multidimensionality of designed (urban) landscape praxis, albeit restricted to a number of specific aspects: attention to the social dimensions of public open space design (whereby a promenade-like space invites a colonization of the trestle by different user groups in varying patterns of occupation); working with systems (in the translation of urban-infrastructural systems that formed the larger landscape of the New York region into a linear parkway); motion design (by working with systems of movement relating to different scales, responding to the size and multiplicity of the site and its context); the manner in which the sensorial is elaborated on (through the sounds, smells and tactility of planting, in contrast to the overwhelming visual character of the park's context); engagement with kinaesthesia and synaesthesia (through an activation of the cognitive and emotive experience of landscape); the generation of meaning via multiple narratives

on nature, landscape and the city (via a planting scheme that depicts both the 'anti-wilderness', a 'return to wilderness', a harmonious coalescence between nature and man, and a hybrid nature of the cultivated garden, and on Manhattan).

Notwithstanding cultural differences and geographical particularities, these examples present a compendium of design themes that range from site-specific translations to process-oriented measures, reveal attention to aesthetic and experiential aspects, and to the social and ecological functioning of urban landscapes. These aspects moreover, are addressed at various scales, from local situations within the park to the surrounding context of neighbourhoods and the larger landscape context. This breadth of themes resonates with the genesis of the discipline in the 18th and early 19th century, where a combination of knowledge and skillsets gravitated towards the emerging profession of landscape architecture. In noting the multiple of dimensions addressed in brownfield park projects, and their resonance with the nascent period of landscape architecture, I submit that a multidimensional skill-set and integrative perspective is an enduring characteristic, and indeed leitmotif, of the discipline. The relationship between past and present explications of the discipline as multi-dimensional and integrative is an area of scholarship deserving further inquiry.

### 9.1.1 Garden & Territory, Park Design & Landscape Architecture

Considering the multi-dimensionality of the discipline from its early origins and recent manifestation in the brownfield park project, two traditions (or trajectories) for the discipline - 'garden' and 'territory' - emerge as formative and enduring motifs. Attention to form, meaning and the aesthetic elaboration of nature in the brownfield park project resonate strongly with the garden design tradition. At the same time the addressing of bio-physical, urban-infrastructural and socio-spatial systems and processes - at multiple scales - engages principles resonating with the notion of territory (understood as the large-scale human alterations of bio-physical conditions of particular locations of the earth's surface). Critically, both garden and territory converge in the problematique of urban park design: the provision of visceral, social and meaningful landscape environments for urban citizens and communities, and the mandate to address the ecological, social and economic sustainability of urban territories. As enduring prototypical arenas of landscape design, both garden and territory are essential backdrops in the explication of (urban) park design as endeavour. As such, their convergence in urban park design elaborates the arena of landscape architecture as independent discipline. By extension, I submit (urban) park design as quintessential 'assignment' and critical contributor to (the discourse on) the definition of the discipline of landscape architecture. The further elaboration of garden and territory as 'source codes' for landscape architecture is a fertile arena of academic scholarship in this frame, and deserves further study. By way of opening hypothesis for future research, I submit that the categorization of the discipline into the realms of 'garden', 'park' and 'landscape' is in practise sound but in theory flawed.

### 9.1.2 Site, Process & Form

The recognition of garden and territory as fundamental 'source codes' for landscape architecture (coming together in the brownfield park project), also provides a lens to reflect on the emerging diaspora of perspectives on the theoretical and methodological foundations of landscape architecture.

This diaspora can be broadly divided into site-specific, process-based or morphological-formal perspectives (or variations of these). Drawing on the elaboration of multidimensional aspects in the brownfield park project in the period 1975-2015, I submit that an understanding of the pedigree of the discipline in the traditions of garden and territory frames all three approaches as fundamental to the discipline. Reading and writing the characteristics of a site is a fundamental aspect of both garden design and territorial design. Similarly, process-based thinking extends the engagement with temporality and ephemerality manifest in the garden (tradition), as well as the 'deep-time' processes at work in the shaping of territories. In turn, a morphological-formal perspective on landscape architecture clearly extends the garden design tradition by elaborating on aesthetic and experiential aspects, but also that it implicitly works with the 'congealed processes' forming the territory. On this basis I question whether a taking of positions between site-specific, process-based and formal-morphological approaches is a useful and indeed accurate development in the academic and professional advancement of the discipline. More particularly, as we have seen in the example of the brownfield park itself, contemporary spatial design challenges (and their locations) are increasingly complex and multidimensional, demanding answers that draw on all three perspectives, and combinations thereof. I thus challenge the development of a diaspora of perspectives and submit the trifecta of site, process and form as representing the collective axiomatic 'ways of knowing and doing' in landscape architecture.

### 9.1.3 Recovering & Expanding the Notion of Composition

Expanding on this trifecta, the term landscape is a further critical notion in the theoretical and methodological elaboration of the discipline. Etymologically, the term 'landscape' denotes an imageable environment; and not merely the world we see moreover, but a way of seeing the world, a *composition* of that world. By extension I contend that composition remains a pivotal notion in landscape architecture. New iterations of the term landscape however, elaborate on its etymology as a milieu of community and land, a conception that connects territories to cultural practises, thereby expanding the imageable environment (and by extension the notion of composition) to an engagement with not only the aesthetic dimensions of landscape, but also the orchestration of systems, processes and practises interacting together to form a territory. In this frame, composition can be understood from a lexical and etymological perspective in a broader sense than a 'creative work', such as the way in which a whole or mixture is made up. Via this broader iteration the term composition expands beyond its current narrow formal delineation and usage to a concept encompassing the multidimensional and synthesizing agency of landscape design. In this revised form, I tender composition as an apt and relevant concept to delineate the multidimensional praxis of landscape architecture, integrating site-specific, process-oriented and formal 'ways of knowing and doing'.

## 9.2 Revising Compositional Praxis

If a compound of site, process and form represents the axiomatic 'ways of knowing and doing' in landscape architecture, composition frameworks grounded in purely formal-morphological perspectives – to which the Delft approach is generally assigned – are by extension critically deficient. The Delft approach however, includes a rudimentary elaboration of the concept of site in the operation

'basic form'. Moreover, its attention to programmatic considerations resonate with process-oriented considerations, such that the method may be put forward as embracing a broader elaboration of landscape architecture than purely formal-morphological delineations. Together with its elementary explication of experiential and aesthetic aspects via the 'spatial form' and 'image form' operations, I submit the Delft approach as offering an adequate provisional framework to further elaborate landscape architecture as compositional praxis incorporating situational, process-systemic and formal considerations. As such, drawing on the brownfield park project in the period 1975-2015, I submit the various dimensions emerging in the case studies as critical contributions to a revision of a framework for landscape architecture as compositional praxis, and propose this revision via an expansion, and in some cases replacement, of the four operations of the Delft approach.

### 9.2.1 Revisions to Compositional Praxis as a process of Ecdysis

This revision dovetails with a 'maturation' of praxis taking place in the case study parks in the study period. This process resonates with the phenomenon of ecdysis in arthropods: analogous to the moulting of the exoskeleton in arthropods that facilitates abrupt changes in their form and appearance, the metamorphosis in design approaches between the three case study parks elaborates site-specific, process-oriented and formal considerations in demonstrable leaps. This process occurred in an extended cycle of innovation in the period 1975-2015, which was informed by a constellation of factors. In the first instance, innovation was informed by the location of these parks on brownfield sites. The term brownfield describes land that is contaminated, derelict and/or left vacant by industrial activity.[363] These sites are typified by their divergent sizes, configurations and threshold conditions, by the occurrence of derelict structures, by an industrial 'patina' of forms and materials, and by the presence of contamination and hazard. Responding to these disparate and challenging characteristics informed radical new approaches and attention to a diversity of themes. Innovation moreover, was also catalysed by changes in spatial contexts of these sites as a result of de-industrialization, as well as other transformative patterns of urbanization such as sprawl and fragmentation, and furthermore that interrelated economic, social, cultural and political shifts in park contexts have also informed innovation in the brownfield park project. This factor has in turn informed park briefs and commission structures.[364]

### 9.2.2 Importance of Contextual Factors

Just as critically, the particular visions of designers and/or design teams played a central role in innovation, reflecting their exceptional backgrounds, views and capacities. In each case the schemes were the result of a design competition (as opposed to one-to-one commissions), inferring that this form of commissioning led design teams to develop more innovative approaches than they may

363 Notwithstanding the occurrence of abandoned industrial sites since the beginning of the industrial revolution, I restrict the term brownfield to sites resulting from deindustrialization processes since the middle the 20th century.

364 I note at the same time however, that each scheme reveals something of the abiding 'DNA' of the city it is located in, and by extension of the culture of the society it arises in.

have in a standard commissioning situation.[365] That these design competitions required briefing documents furthermore focussed the attentions of park commissioners on the challenges and complexity of park design and the problematique of city and territory, resulting in an innovative formulation of requirements and a subsequent attention to novelty in judging processes. The academic attention arising from these projects also contributed to a deepening and broadening of discourse around these initiatives, with knock-on effects for subsequent schemes. As such, I observe that a complex of brownfield site conditions, (urban) contexts, park briefs, design teams and reception discourses produced something of a 'planetary alignment' of factors leading to innovations in park design and the discipline of landscape architecture.

These factors mean that the maturation of landscape architecture as compositional praxis in the study period does differ from to the process of ecdysis of arthropods in evident ways. Whereas ecdysis describes a linear process of growth from juvenile organism to full-grown adult, there is not a clear process from a juvenile stage to what we might call a 'mature adult of compositional praxis'. For instance, while a leap in methodology can be observed between the La Villette scheme and the Duisburg-Nord project, the High Line scheme returns to some approaches expounded at Parc de la Villette. More evidently, the many differing contextual factors mean that the context of each park – and by extension the 'organism' of park design methodology - is *a priori* different to the singular characteristics of a biological organism. Moreover, any framework of design praxis is subject to the persistent revision and adjustment characteristic of design thinking, distinguishing it from biological organisms characterised by birth, growth, ageing and death. As such, the hypothesis of the similarity of the development of landscape architecture as compositional praxis via the brownfield park project to the phenomenon of ecdysis in invertebrate animals, I conclude to be only nominally accurate. In that sense I propose to speak more of a 'lively formation' than a living organism.

Notwithstanding these differences however, I moot that ecdysis remains a suitable notion to elaborate the *status quo* of composition as theory and methodology. In this frame, I propose a 'browsing through' of the cumulative themes emerging in the case studies, whereby jumps forwards (and backwards and sideways) are accepted and incorporated. I propose to synthesize this browsing process into a sequential elaboration and enlargement of the (procedures of the) Delft framework, with as end result is an expanded design-as-composition framework incorporating situational, process-systemic and formal considerations. The sequential development of this framework does then resonate with the growth of an organism via the process of ecdysis, whereby I use the term in an operative - as compared to a definitive - manner.

365 As in the case of Parc de la Villette and the High Line, the attraction of a design competition drew participants from a wider (international) field, including disciplines other than landscape architecture.




FIGURE 9.1 Transformation of basic form as procedure, Parc de la Villette.

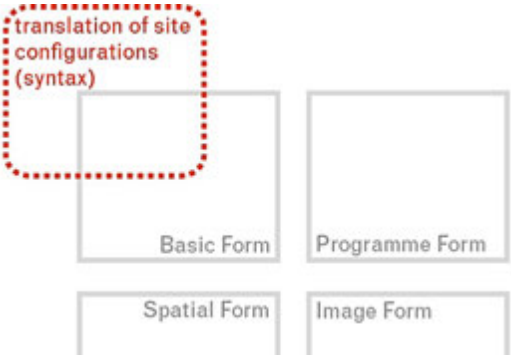



FIGURE 9.2 Transformation of basic form as procedure, Landschaftspark Duisburg-Nord.

### 9.2.3 Ecdysis of Basic Form as Procedure

A recurring thematic in all of the schemes is attention to site, which resonates in the first instance with the basic form operation from the Delft method. The Delft method delineated basic form as a new procedure in landscape architecture as distinct to procedures of composition in architectural theory. The Delft method described basic form as the search for an essential topographic figure (*genius loci*) expressing the underlying form of the territory from the amalgam of natural landscape (*topos*), overlying cultural landscape (*locus*) and urban landscape (*nodus*). I observe however, that the elaboration of site progresses and modifies the Delft method significantly in the course of the three projects.

The introduction of plan geometries in the Parc de la Villette scheme responds to the natural and urban landscape morphology of the site and is context, thereby resonating strongly with the understanding of site in the Delft approach [Figure 9.1]. The tools used to explicate the plan figure moreover, make use of architectural drawing conventions similar to the Delft method.

In the scheme for Duisburg-Nord realised a decade later however, the approach to plan configuration departs significantly from the Delft approach. In the first instance, the reading and writing of industrial infrastructures in the scheme resembles Parc de la Villette in its use of layers, but the approach taken, is to translate existing (industrial) configurations into park 'layers', as compared to the series of new geometric schemas overlaid over the terrain at Parc de la Villette. The scheme does not thereby involve the introduction of a new set of geometries intended to bring the heterogeneity of the territory together, but merely explicates and elaborates existing site geometries [Figure 9.2]. Indeed, there is essentially no introduced plan configuration to speak of. Paradigmatic in this observation is the relinquishing of the search for an essential topographic figure. I note moreover, how 'close readings' of the territory were elaborated on in a series of novel drawings prepared for the competition. A further shift in the scheme in the manner in which the project addresses more than one scale in its layout. The analysis reveals the role of defunct railway lines in the plan figure of both Duisburg-Nord and the larger Emscher Park, exposing in turn an emerging problematique of the urban park: engaging with the urban context of the scheme and dealing with multiple scales in the design. By engaging with the geometries of the urban context and arranging the territory in a manner responsive to surrounding urban tissue, plan figures of city and park blur and merge.



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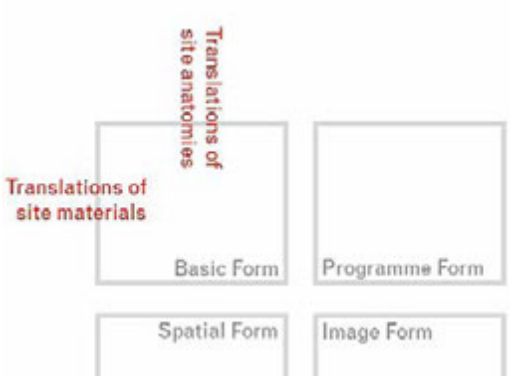



FIGURE 9.3 Transformation of basic form as procedure, the High Line.

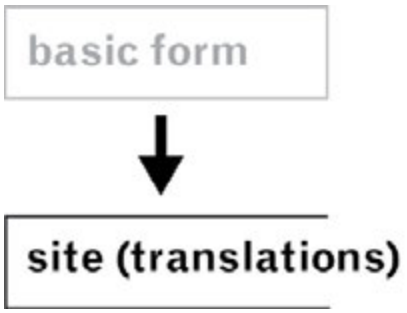



FIGURE 9.4 Transformation of basic form as procedure.

The scheme for the High Line extends the amendment of the Delft method with respect to plan configuration. Particular for the High Line is the limitations of the viaduct for the park layout, which rendered the need for a new 'figural geometry' redundant. Moreover, the literal groundlessness of the trestle presents a step on from Landschaftspark Duisburg-Nord, continuing the paradigm shift in relation to plan configuration as predicated by the Delft method by relinquishing the search for an "essential" topographic figure expressing the multiple underlying patterns of the territory. The conclusion is unambiguous: plan configuration in designed landscape composition is not a compulsory procedure. Instead, I note that the plan geometry of the High Line is replaced by the configuration of various surface materials and their configurations, arising from a close reading of the physical characteristics of the viaduct and its context [Figure 9.3]. In other words, its instrumentality is not the reduction, rationalization and activation of a topographic *genius loci*, but rather an expedient selection of relevant and suitable "anatomies" (and materialities) from the site.

Synthesized into a process of ecdysis, I submit a revision of basic form as operation, from a technique of site plan configuration based on the reduction, rationalization and/or activation of the topographic *genius loci*, to a broader conception of site involving a close reading and writing of existing forms, materials and systems [Figure 9.4]. In this frame, the use of the term *genius loci* in landscape architecture – understood as the absolute character of a place rooted in the topographic unicity of a site (whose innate form is to be revealed by landscape architectural plan) – is a notion which becomes more and more difficult to defend, and by extension less and less suitable. Alternatively, I submit that the notion of place and *genius loci* be replaced by the broader concept of site, which entails subjective but nevertheless detailed readings of locales, and the translation of their physical, material and systemic characteristics into new configurations. The ecdysis of basic form as procedure also underlines recent scholarship (drawing on among other work the brownfield park project) which elaborates the primacy of site in the design process, and positing site-based praxis as an epistemological breakthrough in (landscape) design, in which translation of the existing replaces the abiding, architecturally-driven paradigm of *ex novo* invention.[366] Moreover, the critical importance of site (translations) as procedure posits it as the first step in the carrying out of the design process using this methodology. I also note the challenge this new paradigm brings to the instruments of the design process, in particular drawing and representation: the traditional apparatus of the (architectural) drawing embodies a mindset of autonomy and thereby removal from the particularities of a locale. New types of representation and notation are greatly needed to facilitate site translation.

366 Meyer 2005; Braae & Diedrich, 2012.



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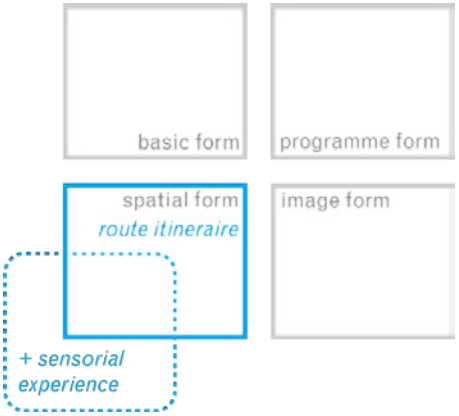



FIGURE 9.5 Transformation of spatial form as procedure, Parc de la Villette.

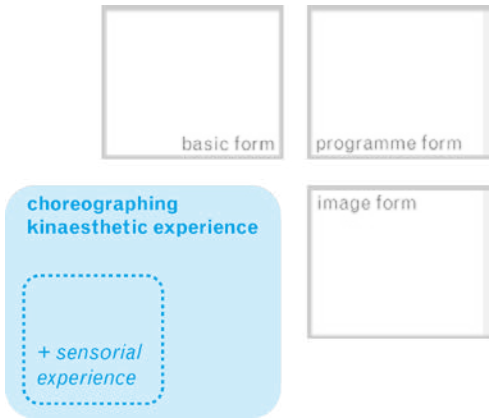



FIGURE 9.6 Transformation of spatial form as procedure, Landschaftspark Duisburg-Nord.

### 9.2.4 Ecdysis of Spatial Form as Procedure

The next major amendment to the Delft method concerns the configuration of the spatiality of (designed) landscapes. This amendment is drawn from the conceptualization and configuration of spatiality in the three case studies parks. Notwithstanding that approaches vary significantly between each scheme, these differences reveal a definitive development (ecdysis) in the elaboration of spatial form, but also demonstrate sporadic returns to conventional architectonic iterations of landspace.

In the La Villette scheme, the introduction of a series of new features was intended to correct the spatial heterogeneity of the site, a schema that resonates strongly with the Euclidean spatiality of a built structure. I note in turn that the Delft method was highly effective in elaborating this spatiality, thereby exposing the bias of the Delft method for the idiom of architecture and its foundations. Furthermore, La Villette deploys the (spatiality of the) classical gardens repertoir, but with limited success, revealing a lack of awareness of the tradition. Many of the principles and features of classical gardens moreover, are deployed via their 'urban incarnations', such that the scheme misses the specificity and richness of this repertoire. This return to the classical gardens repertoire also reveals the dominance of architecture in the development of Delft method (which was developed in the first instance for analysis of the classical gardens). Noteworthy in the scheme however, is the introduction of the spatial variety and dynamic of the garden walk, which is closely akin to the *route itinéraire* from the formal garden tradition.[367] It also draws on the fields of cinematography and psychology. A similarly critical shift can be seen in the introduction of sensorial experience in some of the gardens in the scheme, albeit designed by others [Figure 9.5].

In contrast to Parc de la Villette, the Duisburg-Nord scheme does not attempt to correct the spatial heterogeneity of the site with a new layer of forms but foregrounds the importance of how a designed landscape appears to an observer from eye-level, and the need for alternative modes of park design praxis engaging with the experience of a designed landscapes through movement. This approach is

367 I contend on this topic that a misconception exists that the formal garden was predicated on visual perception from a stationary position, and note that motion design was an integral part of theses gardens, with routes following designated itineraries, with a resultant contrast of spatial experience between interiors of features and the enormous spatiality of axial spaces.



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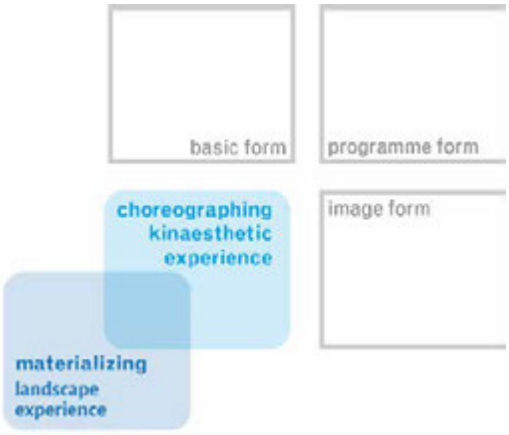



FIGURE 9.7 Transformation of spatial form as procedure, the High Line.




FIGURE 9.8 Ecdysis of spatial form as procedure.

informed by the size of the site, reflective of the characteristics of (designed) landscapes universally that exceed the boundaries of cognition and comprehension from a single viewpoint. I note how a kinaesthetic schema allows the visitor to bodily engender 'lived space' from absolute space through the act of movement, in particular walking. This experience is heightened by the introduction of new access points and movement lines within the defunct complex itself; being able to move through, up and over the disused steelworks allows the visitor to discover and colonize this alien landscape [Figure 9.6].

Furthermore, a phenomena related to kinaesthetic experience is the sensory stimuli that our body receives as we move through a (designed) landscape. On this topic the particular translation of the materiality of the site in the Duisburg-Nord scheme - via the opening up of stairs and walkways in the blast furnace tower, and the cutting of openings into the walls of the bunker complex - allows a traversing of previously off-limits environments and a sensorial 'immersion' in them. At the same time that sensorial elaboration in the Duisburg-Nord scheme remains somewhat ambiguous and provisional; as compared to the localized articulation of the sensorial in the theme gardens at Parc de la Villette, sensorial stimuli pervade much of site but in various and conflicting ways. The focus on the articulation of the site 'syntax' may account for this, as material choices are critical in defining (the sensorial aspects of) the 'stuff' of landscape - surface materials, plants, water and objects. The choices made at Duisburg-Nord however, seem to be largely driven by the materiality of the existing; indeed, with the exception of the planting schemes in the various gardens, the substance of the park is by and large limited to a reflection of the materiality of the territory 'as found'.

In the following scheme for the High Line, I note in the first instance a return to an environment with a distinctive Euclidean spatiality (floor/ground, wall/edge, roof/ceiling elements). As such the scheme resonates with the architectonic iteration of spatial form (as elaborated in the Delft framework) observed at Parc de la Villette. Significant developments in the choreography of the kinaesthetic experience also emerge in the scheme however, whereby (pedestrian) movement playing a critical role. I note how the scheme works with systems of movement relating to different scales, responding to the extraordinary form and length of the site [Figure 9.7].

A further critical contribution to the ecdysis of landscape architecture as compositional praxis (and the innovation of the Delft method) is the manner in which the sensorial is elaborated on. Whereas the La Villette and Duisburg-Nord schemes are relatively underdeveloped in terms of sensorial experience,



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FIGURE 9.9 Transformation of Programme form as procedure, Parc de la Villette.

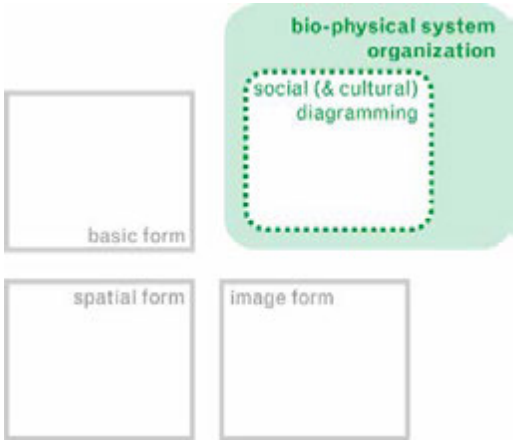



FIGURE 9.10 Transformation of programme form as procedure, Landschaftspark Duisburg-Nord.

the sounds, smells and feel of grasses and perennials create a powerful synaesthetic environment, together with other non-visual stimuli such as the sounds and smells of street-life below. This sensorial environment moreover, contrasts with the aesthetic experience of the New York cityscape around it, such that a deliberate game of visual versus haptic occurs. Thus, whereas the sensorial is overlooked in the Delft framework, its criticality in activating the cognitive and emotive experience of (designed) landscapes is patently demonstrated here. The scheme also foregrounds the importance of elaborating the materiality of the landscape project in effecting this experience, through the sophisticated design of surface materials, planting and other features. This agency and particularity of (landscape) material elaboration underlines the unicity of landscape architecture as design discipline, as compared to that of architecture and urban design.

On the basis of the ecdysis of approaches to spatiality in the three case studies, I tender a revision of spatial form from the arrangements of surfaces, planting and built form into a static whole, to a choreographing of kinaesthetic perception of designed landscapes. Spatial form as procedure has thus developed beyond an architectonic delineation of space: the fact that (designed) landscapes exceed the boundaries of cognition and comprehension from a single viewpoint, thereby requiring a fundamentally different explication of spatiality. As such, I foreground the importance of how a designed landscape appears to an observer from eye-level, and the need for alternative modes of park design praxis engaging with the experience of a composition through movement. The brownfield park project thus presents a critical step forward to the design-as-composition framework as explicated by the Delft method: that spatial form is not in itself sufficient to elaborate (designed) landscape space but requires the deliberate explication of a kinaesthetic schema. I furthermore draw attention to multisensory experience that our body receives as we move through a (designed) landscape, in particular in relation to material choices - surface materials, plants, water and objects - which are the 'stuff' of landscape [Figure 9.8].

### 9.2.5 Ecdysis of Programme Form as Procedure

A following thematic emerging in the schemes is attention to the systems and processes that formed the territory and whose re-calibration define its future ecological, social and economic functioning.



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These attentions resonate with the programme form operation from the Delft method, but with critical differences emerging from park to park.

Programming formed a central focus in the design-technical elaboration of the La Villette scheme, underscoring the functional dimension of landscape design declared by the Delft method. But with the programmatic demands of the brief overlayed over one another (in much the same way as programme is spatially quantified and stacked in the different floors of a building) it also underlines the criticism of the similarity of the Delft framework to architectural composition. The instruments to explore and represent programme configuration are similarly architectonic; despite their graphic appeal, the drawings developed for the project are by-and-large creative variations of architectural representation (plan, exploded axonometric view, model, birds-eye view).

What is otherwise a critical contribution to discussion on the ecdysis of landscape architectural composition, is attention paid to the social dimensions of park design in the La Villette scheme [Figure 9.9]. Together with the requirement of the brief to bring all walks of urban life together in an ambitious social experiment, the project presents a critical intensification of focus on social programming. This contrasts to the Delft method, which makes little reference to the social. Social interaction in the La Villette scheme however, is elaborated in a formal (and thereby static) way, with little room for changes in the use of the park in response to shifting demographics and emerging cultural practises. Critically too, the attention to process is limited to the social; there is no reference to facilitating ecological processes or the temporal processes of growth and seasonality. This correlates with the Delft method, which similarly pays little attention to the systems beneath and beyond the site that form the systemic 'DNA' of the territory. What was most innovative to the Delft explication of landscape architectural composition in relation to programme is that the approach creates conditions to generate and change place through social activity and interaction, as compared to conventional notions of landscape design as place-making praxis focussing on an editing of the physical characteristics of a locality.

In the case of Landschaftspark Duisburg-Nord realised a decade later, the scheme significantly revises the Delft method in relation to programme as operation. Configuring functions did not form a deciding factor in the design-technical elaboration of the scheme, rather a sophisticated matching of programmes to site conditions was carried out, contrasting to the pre-determined programme schema of Parc de la Villette. Furthermore, the scheme focuses on accommodating and engendering social interaction through the avoidance of a path network and the retention of the existing mosaic of hardscapes [Figure 9.10]. This approach resonates with the focus at La Villette on orchestrating social processes, furthering the amendment of the Delft method by intensifying the mandate of addressing human-social aspects in landscape architecture. The Duisburg-Nord scheme puts forward a less static vision of designing for the social than La Villette, with room for changes in the use of the park in response to shifting demographics and emerging cultural practises. This flexibility reflects a more fundamental shift towards working with (social) systems and processes.

Finally, the Latz team acknowledged and worked with the processes of industrialization such as coal-mining, ore transportation and steel production with the so-called landscape 'syntax' concept, which drew attention to the systems that formed the territory. Framed in the context of the Emscher Park project, these translations also address the bio-physical and urban-infrastructural systems of the greater urban territory. Critical for this shift is the fact that the syntax approach represents a synergy of process and form by giving shape to the various flow systems within and beyond the park. It also accommodates critical challenges for urban landscape design such as the form and functioning of biophysical systems dealing with challenges such as maintaining biodiversity, water management and heat reduction.

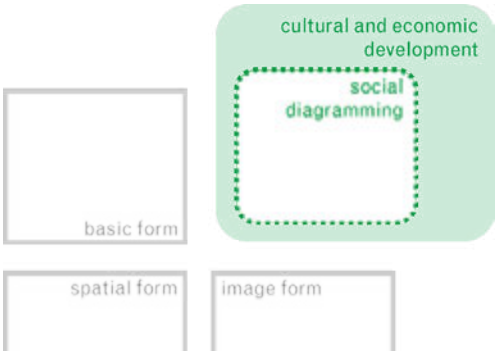



FIGURE 9.11 Transformation of programme form as procedure, the High Line.

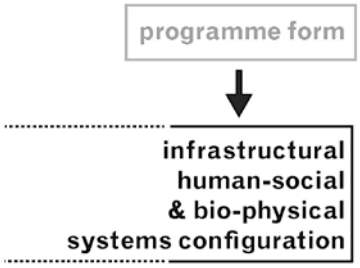



FIGURE 9.12 Ecdysis of Programme form as procedure.

Correlations to both the La Villette and Duisburg-Nord schemes appear in the High Line project in relation to the social dimensions of landscape design [Figure 9.11]. In restricting the programme to walking, the project echoes the concept of open ground-scape at Duisburg-Nord, where the promenade-like space invites a colonization of the trestle by different user groups in varying patterns of occupation. By extension, this approach also resonates with the approach at La Villette to orchestrate social processes through the choreographing of different programmes. In relation to the generation of a mosaic of 'first', 'second' and 'third places' (as elaborated by the Duisburg-Nord scheme), the High Line restricts itself primarily to the realm of 'first place'. Notably however, the High Line cannot be properly distinguished from cultural and recreational functions in the immediately vicinity. Attention to systems and process is limited to elaborating the former rail line; there is little evidence for a working with the ecological processes that so characterized the derelict line. Working with biotic processes was included in the winning competition entry (and others) however, with the first stage featuring nine themes in which growth could be explored and the second submission including a responsive system of material organization for ecological development. Additionally, the notion of process emerges in the urban context of the park, whereby in the period since it's opening unparalleled urban development has occurred in the area. These developments have accelerated the physical and social changes to the Lower West Side to such an extent that the dynamics of urban transformation must be somehow considered in any operational framework of landscape architecture.

Analogous to the process of ecdysis, I tender a major revision of programme form as procedure, from the *otium-negotium* (recreational and cultural programme versus economic programme) model of the Delft method, to the understanding and designing of site and territory as a systemic environment facilitating infrastructural, human-social and bio-physical processes [Figure 9.12]. This revision expands the programmatic attentions of landscape architecture from categories such as 'recreation' and 'culture' to more fundamental functions of (urban) landscape environments such as movement infrastructures (internal circulation and external connections), human well-being (health, comfort and identification), and social needs (interaction and collectivity). Additionally, a revised procedure of programm(ing) attends to the geomorphological, hydrological and biotic systems beneath and beyond the site, thereby scaling up the design task to address environmental and ecological problems on a regional scale. The scheme for Duisburg-Nord for example, includes a network of movement infrastructures across the site and connecting to the larger Emscher park system, a mosaic of recreation areas and social spaces, grounded in an 'earth-life' system whereby hydrological and ecological aspects are incorporated.

This understanding of the procedure of programme as a layered schema of systems, posits designed landscapes as dynamic and open-ended entities, as compared to the fixed programmatic schemes of a built edifice. More critically, it brings to the fore the fundamental temporality of landscape, and

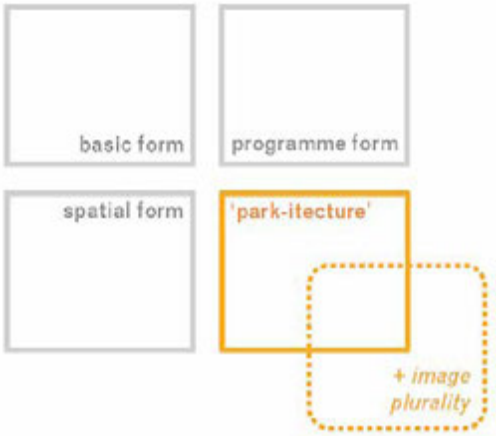



FIGURE 9.13 Transformation of image form as procedure, Parc de la Villette.

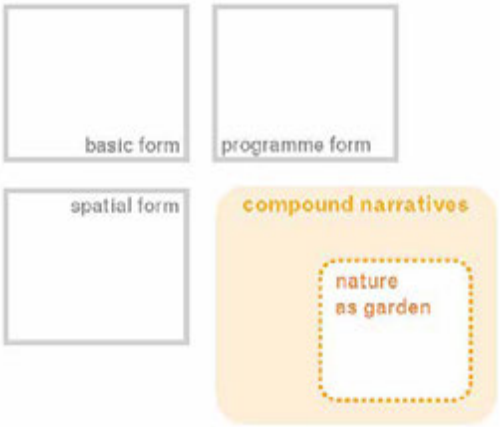



FIGURE 9.14 Transformation of image form as procedure, Landschaftspark Duisburg-Nord.

that designed landscape projects are but a moment of 'interference' in a process of transformation that began long ago and will continue into the future. This condition, combined with the working with infrastructural, human-social and bio-physical systems, demands a very different set of instruments than the architectural project, whereby scale and time are critical notions.

### 9.2.6 Ecdysis of Image Form as Procedure

A final thematic emerging in the schemes is attention to the appearance of (designed) landscapes: its indexes, icons and symbols, its material qualities, and more generally how the aesthetics of a designed landscape is elaborated: from (broader conceptions of) nature, landscape and city to the appearance and materiality of a park. The Delft method overlooks how users attach different meanings to the appearance of a designed landscape based on their cultural background and personal situation. Moreover, the inherent multiplicity of imagery in a re-purposed environment such as a brownfield site shifts the focus onto how reception plays a role in landscape design, and how this revises the operation of image form in fundamental ways. Engagement with this problematique differs from park to park, critically informing the development of the procedure.
A first amendment to the procedure arises at La Villette, where the project builds up an extensive aesthetic language focusing on the plurality of the urban realm, particularly via the introduction of the *Folies*. The multiplicity of these structures introduces a shift in the role of the park designer from defining a fixed set of indexes, icons and symbols within a set narrative, to images allowing for multiple interpretations. At the same time these structures are inescapably aesthetic and as such have become powerful icons and symbols in their own right. Indeed for the first time we may speak of a new typology of building, which can be described as 'park architecture' (or perhaps more appropriately 'park-itecture') [Figure 9.13].

This approach is extended on at Duisburg-Nord, albeit in a different way. The vision for the central blast furnace area for instance, is about creating a metaphorical world open to multiple interpretations: the steelworks can be read as an urban compound or citadel complete with its own squares, streets and passageways, or alternatively as a mountain range of fantastical topography; the choice of image is dependant on each visitors own associations and inclinations. The design approach thus shifts from creating a fixed narrative structure, to a focus on how design might engender compound and dynamic narratives [Figure 9.14]. From this perspective the role of semantics in the Duisburg-Nord scheme engages



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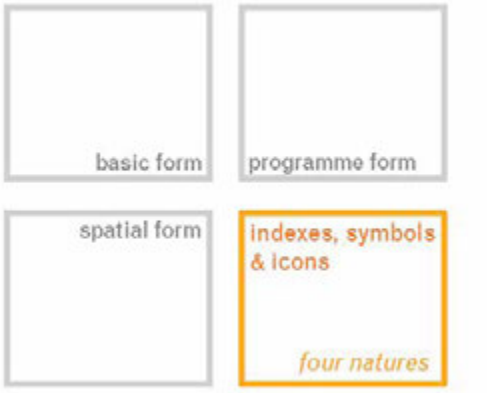



FIGURE 9.15 Transformation of image form as procedure, the High Line.

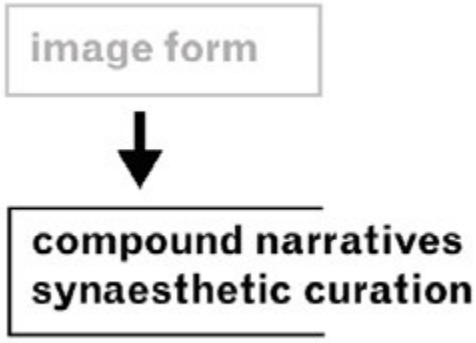



FIGURE 9.16 Ecdysis of Image form as procedure.

a new form of representation shifting from producing meaningful signs, to generating meaning by evoking multiple (virtual) realities in which the visitor plays an active role. These compound narratives moreover, are 'strung together' by the choreography of movement in the project, and amplified by sensorial experiences. As such, the focus on kinaesthesia and synaesthesia in the articulation of the scheme draws spatial and aesthetic aspects of designed landscapes together.

At the same time the Duisburg-Nord scheme introduces a clear aesthetic narrative in its treatment of nature. The (trope of the) garden is used in the scheme to depict an aesthetic of 'human nature'. In resisting a treatment of the complex as a post-industrial wilderness, the design team inserted these familiar, human-scale environments to ameliorate and reframe an unfamiliar industrial landscape. The generation of meaning via index, icon and symbols, and the more complex topic of aesthetics, expands in various directions in the High Line scheme. The spectacle of retained rail lines weaving through vegetation constitutes (the retention of) an icon and symbols of the industrial era and rail transport. At the same time the combination of these features with the planting scheme generates a complex set of narratives on nature and landscape: from an 'anti-wilderness' to a 'return to wilderness'; and from a scene of harmonious coalescence between nature and man to a hybrid nature of the cultivated garden. These tropes return to the triad of natures elaborated in the classical gardens and nineteenth-century municipal parks, but they also reveal how traditional representations of nature played a central role in the High Line's development, design, maintenance and publicity. The scheme also however, iterates a trope of nature emulating the 'disturbance' model of nature seen at Duisburg-Nord.

Furthermore, the city plays a central role in the appearance of the scheme. As one move along the line, the image of the metropolis overwhelms one's perception: iconic buildings, the Statue of Liberty, ships on the Hudson, etc. Between them, the images of Manhattan's prolific street-life, with its scurrying people and traffic, are also woven into this narrative. The ceaseless barrage of images reveal how 'imaginary' New York can be; just as the city of images exists through the power of its pictures, it can also be said to only really exist to us by virtue of the ceaseless production and consumption of these images. In this respect the scheme can be said to return to the projection of fixed imagery as elaborated in the Delft method, contrasting to the multiplicity of imagery in La Villette and Duisburg-Nord and the corresponding shift in the interpretative dimension of composition (image form) towards an assemblage of images allowing multiple interpretations [Figure 9.15]. A complication in this is the manner in which the tropes of nature mingle with the narrative of the city. The city as antithesis to the notion of landscape is abandoned in this approach; instead Manhattan is envisioned as a landscape on par with other 'natural' North American landscapes, thereby interpreting (and propagating) an iteration of landscape as being



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about a visually-composed image of the world. This approach underlines the mandate of the profession to continue elaborating landscape as an aesthetic phenomenon.

As compared to the other three procedures, a clear evolution of image form does not present itself in the three case study parks. Rather, I note different elaborations of the complex topics of aesthetics in each scheme. Instead of presenting an alternative (evolved) elaboration of imagery for instance, both Parc de la Villette and the High Line embody the principles the Delft method is based upon: an iteration of designed landscapes in which aesthetics is elaborated in a visual (i.e. semantic) way - whereby expression is given to ideas, objects or events that form part of tha collective 'bank' of images in individuals and (urban) societies - and/or in an formalistic way - whereby landscapes are created and appreciated as picturesque environments. In this frame, the distinctive material detailing of the High Line, despite its sophistication as a translation of the rail trestle, can be said to merely expand a traditional aesthetic appreciation of landscape to include industrial ruins.

Some innovation to image form does emerge however, in the compound narrative approach elaborated at Duisburg-Nord. In this modus, designed landscapes are freed from the onus to be meaningful at all, or at least to be meaningful in a singular way. A noteworthy aside in this approach is the focus on time itself (as compared to historical periods).[368] The innovation of compound narratives moreover, is amplified in the scheme for Duisburg-Nord and the High Line through kinaesthetic and sensorial experience. On this last point Duisburg-Nord, but also (parts of) the High Line, introduce an alternative iteration of image form as procedure by also articulating the synaesthetic experience of a designed landscape as compared to a conventional aesthetic appearance based on (informed) appreciation of its formal properties [Figure 9.16]. New in this stance is the inclusion of the experience of nature as part of aesthetics, which challenges abiding notions of aesthetics elaborated in the visual arts, whereby aesthetic appreciation was/is seen to be about the distanced and intellectual appreciation of formalistic and sensuous properties (of a landscape). This shift was first elaborated by Hepburn (1966] who argued that what is commonly seen as aesthetic deficiencies of the natural world (and thus reason to deem its appreciation subjective, superficial and even non-aesthetic) are actually sources for a new kind of aesthetic experience. In Hepburn's view, precisely because it is not constrained by art historical traditions and art critical practises, the natural world facilitates an open and creative mode of appreciation.[369]

Placed in an historical perspective, synaesthetic curation is not necessarily new: translating conceptions of nature into everyday environments may be said to be the unique and perennial task of landscape architecture.[370] What is new however, is the criticality of synaesthetic curation in relation to the subject of the aesthetics of nature. At another level, that aesthetic curation of nature in designed landscapes also informs our responsibility for it, thereby establishing a direct relationship between aesthetics and ethics. In practise then the designer, in transforming these aberrant sites, becomes the curator of the complex relationship between appearance, perception, reception and (ethical) position. The aesthetic of nature elaborated in a designed landscapes is thus embodied in the framework of landscape design-as-composition praxis.

368 This approach contrasts to abiding methodologies in conservation and heritage (such as museification or monumentalization), revealing a potentially valuable contribution of landscape architecture to the discourse and practise of heritage design.

369 Hepburn, 1966.

370 Girot, 2016;

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# 10 Reflection & Outlook

## 10.1 Transformation in Composition, Composition in Transformation

Having arrived at the conclusion of this study, I remark that to my knowledge this work represents the first doctoral study focussing specifically on (a review of) the subject of composition in landscape architecture, and specifically an integral revision of the Delft approach.[371] In this light it should be noted that my conclusions can thus be considered relatively novel and 'stand-alone', and provisional to further scrutiny and development. I initiate this scrutiny by noting a number of issues that deserve further attention.

To begin with the research was necessarily limited to a small number of case studies; evidently, a further sharpening of the methodology is likely to emerge through insights from other (brownfield park) schemes. This also applies to the begin and end date of the brownfield park project, in relation the process of ecdysis of composition praxis. (For the purposes of this thesis - and the mental wellbeing of the author and his cohort - a beginning and end date was somewhat synthetically determined). A revision of 'historical' brownfield parks such Parc des Buttes-Chaumont, Parque del Oeste, Donaupark and Zocherpark is of particular interest in this light, as they may reveal other forms of multidimensional praxis and by extension alternative elaborations of the themes of site, process and form. In that light it may also be of value to peruse even earlier examples of landscape architectural praxis, using a broader interpretation of the term 'brownfield'; I note that some historical designed landscapes are realised on the leavings of industrial processes occurring prior to the industrial revolution, such as the estate landscape of 's-Graveland near Hilversum in the Netherlands, which was developed on the residues of sand-mining activities purposed for the *grachtengordel* extension of Amsterdam in the seventeenth century [Figure 10.1]. Of interest in these 'historical brownfield' schemes moreover, is their differing contexts (in non-urban areas) whereby infrastructural, human-social and bio-physical delineations differ enormously.

This contrast also pertains to contemporary brownfield schemes such as Cockatoo Island, Ariel Sharon Park, Fresh Kills Park, Halde Hoheward, Halde Prosperstraße, Downsview Park, Crissy Field Park, and Museumpark Soesterberg. Further scrutiny on this topic could/should focus on theoretical aspects such as composition as term and notion, and on landscape and landscape aesthetics. This work should proceed in parallel with elaboration of site and process from a theoretical and methodological point of view. Inroads can also be expected from alternative research methodologies including design research or studio simulations. An extra outcome of this work may be the development of alternative tools of representation, given the limitations of architectural drawing conventions for the spatiality, temporality and materiality of landscape.

371 As discussed in part one, it does build however on the work of other researchers in the Delft group on certain procedures in the periphery of their own applications of the method this research.

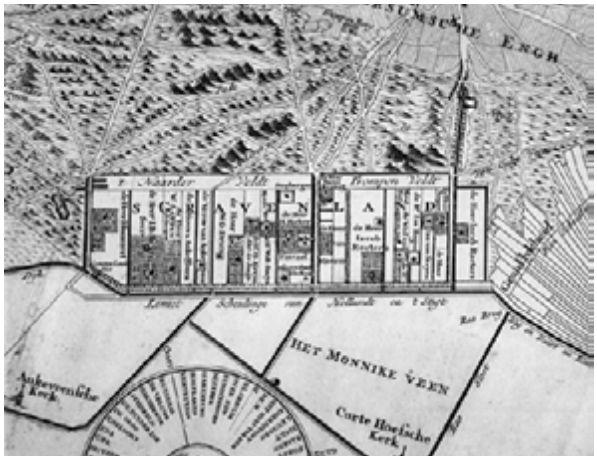



FIGURE 10.1 Fragment from kaart van Gooiland. H.Post ca.1740.(RCE).



FIGURE 10.2 Winner National Geographic Photography Competition 2017 – ' The Birth of a Butterfly'. (Photo: Mascha van Lynden tot Oldenhaller).

Furthermore, given the Delft approach was originally developed as a research methodology to examine the repertoire of the classical gardens (in the absence of documentation of the design process itself), it may prove useful to revisit some of this research to test the validity of the new revision. I note in this the importance of the choice of (classical) schemes to review, pointing out the noted differences between *Gartenreich* Potsdam and *Gartenreich* Dessau-Wörlitz in part one.

More generally, methodology in landscape architecture (framed here under the heading composition) is a dynamic mechanism, subject to continued review and development. Having proposed the metaphor of ecdysis to elaborate this development via the brownfield park project, I note the rapid advances being made in the discipline in recent years, paralleled by far-reaching societal changes and corresponding spatial developments in cities and territories. These changes are increasing at such a pace that the future development of the discipline may be more akin to the radical metamorphosis of insects than the gradational development of arthropods.

By way of inspiration then, I submit the subject of the winner of the National Geographic photography competition 2017 [Figure 10.2]. The image by Mascha van Lynden tot Oldenhaller of a cabbage butterfly (*Pieris brassicae)* shows the marvel of the moment of radical transformation from pupa to flighted adult. Thus, in contrast to the mood pervading much of society anno 2017 in the face of climate change, displaced peoples, populism and post-truth politics, perhaps better is yet to come for landscape, a development which might alleviate the woes of the world a little. If not, at the very least I suggest we stop now and then amidst our troubles to 'smell the roses' and admire the beautiful little creatures we share this planet with.

## 10.2 The Agency of the Brownfield Park

One of the 'collateral findings' of the research underpinning the application of landscape architecture is the new and critical agency of the municipal park typology – via its re-incarnation as brownfield park - in the problematique of the contemporary city. Analogous to the methodological ecdysis of landscape architecture as compositional praxis, this agency ranges from the shaping of the city's



FIGURE 10.3 Parc de la Villette, Paris. 2017. (Photo: Dick Sijtsma).



FIGURE 10.4 Landschaftspark Duisburg-Nord, Ruhr. 2017. (Photo: Dick Sijtsma).

physical fabric to its social make-up and functioning, and from the ecological and environmental performance of urban territories to fostering new conceptions of nature, city and landscape among urban societies.

The potential of the brownfield park to shape the city's physical fabric is informed in the first instance by the necessity to deal with the aberrant (infra)structures typical of brownfield sites. In turn, these conditions inform design approaches establishing extensive morphological and spatial interrelationships between park and city at different scales. The resultant schemas also repair and augment functional connections and relations between surrounding neighbourhoods hitherto separated by industrial facilities [Figure 10.3]. In this frame, park design emerges more categorically as an exercise in creating both a separate (natural) world within the city, and lending shape and content to the urban realm around it. Interrelated to the agency of the brownfield park to re-shape the morphology of its surroundings is its capacity to influence the development of urban *programme* around it. Exemplary for this capacity is the High Line in New York, the surroundings of which has seen a dramatic rise in building activity since it's opening in 2009; not only residential developments, but also cultural and retail facilities. Notwithstanding the unicity of the project and the city in which it lies, the urban changes to the Lower West Side demonstrate how the physical and socio-economic transformation of cities have become further enmeshed with park designation and design. As such, in the frame of contemporary urbanism processes in which public authorities increasingly relinquish their grip on the form and content of the city (and let market-driven and bottom-up forces take over), I note that the municipal park remains a public initiative. As such, the recovered agency of the park to give form and content to its extended context should be seized on by public authorities as a new tool to shape and direct urban development.



FIGURE 10.5 Westergasfabriek. 2017. (Photo: Author).




FIGURE 10.6 Backdrop for talk-show DWDD, Charlie Hebdo, 2015. (Image: DWDD).

I submit however, a note of caution to new park initiatives: in certain contexts there is a danger that the recovered inter-relationship of park and city lead to a spiralling of property values and accompanying patterns of property speculation and gentrification. These developments are epitomized in the Lower West Side since the realisation of the High Line. In this regard, the disciplines of planning and design have a new responsibility to stimulate controls on speculation and the range of housing stock and other programme. They may also need to stimulate controls on building envelopes; in a matter of years much of the High Line has been transformed from a raised and open space with sweeping views over Manhattan and the Hudson, to a 'canyon' flanked by increasingly towering structures. These developments create not only a totally different micro-climate, but cut off the visual relationship between park and city.

The agency of the brownfield park in shaping the city around it may also extend beyond its immediate physical adjacencies, as well as pushing the 'intellectual boundaries' of spatial planning and design. The example of Landschaftspark Duisburg-Nord illustrates how the brownfield park project contributes to the problematizing and diagramming of so-called 'blue-green' infrastructures on a metropolitan scale [Figure 10.4]. The network of brownfield parks and other public landscapes created from the vast de-industrializing territory along the Emscher addresses – among other things - the ecological and environmental problems of the region, a scale necessary for their effective resolution. The configuration of this network was made possible by the particular morphology of the region, whereby processes of de-industrialization in the post-war period opened up vast new areas in an urban region already characterized by a heterogonous mosaic of historic towns and villages, new residential suburbs, infrastructure and sundry landscapes.

The large-scale conversion of previously off-limits, industrial areas to public open space is also critically back-dropped by a paradigm shift in thinking about notions such as 'urban' and 'landscape' and traditional planning concepts such as the (built-up) city in/and/versus the (open) countryside. Not only has the Ruhr metropolis become a vast urban-landscape continuum in which the difference between city and countryside has dissolved, the tools used to understand order and act in this territory are newly informed by the conceptual and operational scope of landscape. By extrapolating de-industrialization - along with economic and technological developments affecting the majority of contemporary urban regions, I observe with others that the Ruhr area may also be seen as an exemplar for the spatial mosaic of 21st century cities. I tender this example as evidence that de-industrialization, brownfields and the brownfield park has contributed to a paradigm shift in the understanding of urban patterns and processes, and the repertoire needed to address 21st century city

challenges. A consequence of this development is that the fields of landscape architecture/landscape studies and urban design/urban studies have become necessarily intertwined. At the same time I submit that this does not mean that they are one and same thing; indeed, the brownfield park teaches us that their differences need to be better understood and developed in order to address the emerging challenges of the contemporary urban realm, together with urban design/urban studies professionals. The noble but misleading assumption of the inter-changeability of the two disciplines is perhaps even a threat to progress in our contribution to urban problematique.

Part of this complementarity can be seen in the transformation of brownfield sites into public open spaces. The brownfield park project informs an expanded scope of the municipal park to address issues of human well-being such as health, comfort, affiliation and identification, as well as social needs such as interaction inclusivity and collectivity. New iterations of the urban park typology via its incarnation in the brownfield park also present it as an arena for interaction, communication and social learning in cities where conventional public places are increasingly compromised [Figure 10.5]. Indeed, the three case studies examined demonstrate (albeit in contrasting ways) how the park typology is emerging as one of the most 'urbane' place in the contemporary city (where urbane is understood as a high density and diversity of social and cultural practises). Taken together, I observe that the brownfield park project engages with human-social challenges of cities in a very different way than earlier parks did. Expanding on this agency, the new urban park can/should also assume an increasingly central role as stage for civil representation and action, aspects vital to a vibrant and democratic public realm. This thematic resonates with the agency of the public park in its embryonic phase in the 19th century; the emerging role of city parks in accommodating civil practises effecting principles such as tolerance is demonstrated in a Dutch television talk-show responding to the *Charlie Hebdo* terrorist attack of January 2015, where an image of a city park formed a backdrop to depict the democratic locus of civil society [Figure 10.6]. As much as these issues are new to the instrumentality of park design, so too are these themes relatively novel to the profession; indeed the implications of these issues still remain largely under-acknowledged. These mandates demand of urban park commissioners (and designers!) new competencies in areas such as environmental psychology, urban sociology and civil justice.

## 10.3 From the Mire of Modernity to the Age of the Anthropocene

I also submit the brownfield park project as the prototype of a new city park embodying novel concepts of nature, which informs alternatives to (modern) paradigms such as the notion of 'wilderness'. The starting points of these new iterations of nature are brownfield sites themselves, which are invariably replete with all kinds of natural material but in the most unnatural of conditions. Insightful responses to these conditions elaborate radical new ideas of nature. This new vision of nature is the product of three related insights: 1) the acceptance of a situation in which man has interfered with nature on a global scale; 2) realization that the polluted ground of industry might also benefit – albeit unconventionally - certain organisms and biodiversity; and 3) that ecosystems are not static but in fact dynamic and changing. As a central source of disturbance, human culture thus shifts from being a negative force that undermines the balanced, stable equilibrium of mature and healthy system, to a given part of ecological systems.

More fundamentally, this new paradigm also challenges the abiding distinction between culture and nature, recognizing (but not excusing) the influence of human culture on natural systems and the impact of cultural practices such as the burning of fossil fuel, the release of ozone-destroying



FIGURE 10.7 Landscape 1, (Levi van Veluw, 2008).

gases, and the introduction of alien species. This stance is embodied in the coning of the term 'Anthropocene', by the Nobel Chemistry Laureate Paul Crutzen to describe a new geological age succeeding the Holocene.[372] A practical sub-text in the concept of the Anthropocene is that cultivating an idea of 'nature' as an opposite to 'human culture' may seem sound in principle, but in reality gets in the way of tackling of issues such as maintaining biodiversity and dealing with environmental

372 Crutzen, 2002.

degradation. The Anthropocene concept implies that if natural processes are interwoven with cultural practises, nature cannot be thought of as pristine or autonomous [Figure 10.7]. Not only is the notion of 'wilderness' made thereby redundant by this concept, the healing of brownfield sites with pastoral scenes (based on a romantic ideal of the healing property of nature) is also rendered nonsensical. In this I keenly note the irony that the very industrial environments that drove the nineteenth century romantics to cultivate notions of wilderness and the pastoral in city parks, now inform novel conceptions of nature that can inform new responses to environmental problems on a global scale. These sites, and the "receding glacier of industrialization" more generally, thus inform an erosion of western dualistic visions of nature versus culture, along with other paradigms that have shaped our world since the industrial revolution.

From this perspective, emerging notions such as the Anthropocene can also be seen as a symptom of a more fundamental shift (western) society finds itself in at the start of the third millennium. In this frame the concept of landscape (and its operative scope depicted by such things as the brownfield park project) offers a useful lens to tease out some of the existential blunders we have made, as well as some point out some 'areas for improvement'. The recovery of interest in landscape at the end of the twentieth century can be said to reflect not only a deeper questioning of Modernism, but of the very era of modernity itself.[373] Critical post-war thinkers increasingly held rationalist thinking developed in the early modern period responsible for the intellectual *cul-de-sac* the west found itself in at the close of the second millenium.[374] Toulmin (1992) in particular, highlights the shift from humanism to rationalism in the early Renaissance, revealing the stark contrast between fifteenth-century humanism in which fields of study such as ethnography, history or poetry were common fare, and sixteenth and seventeenth-century rationalism that concentrated on abstract, decontextualized fields such as geometry, dynamics, and epistemology. The four shifts made in this period - from oral to written, from local to general, from particular to universal, and from timely to timeless - illustrate the *about turn* from practical to theoretical philosophy.[375] The renewed interest in landscape (cultivated by criticism of Rationalism in the fields of existentialist philosophy and hermeneutics), posited that existence was not so much a universal but a relational condition, and that we define ourselves with respect to (our dialogue with) others.[376] The metaphorical proposition in this position is a horizontal field of relationships, a *landscape* that integrates diverse institutions and situations.[377] This relational condition resonates with an increasing questioning by landscape academics of the modern western tradition (of design) associated with creating new forms, the cultivation of novelty, and their embodiment of the concept of 'progress'.[378] As such, the lens of landscape points us towards alternative modes of individual and collective consciousness, and might, having helped put Modernism behind us, perhaps also be operational in now freeing us from the 'mire of modernity'.

373 I refer here to the period following the middle ages, characterized by the enlightenment movement, the rise of nation states and industrial society.

374 See for instance Drucker, 1957, Habermas, 1981; Toulmin, 1992;

375 Toulmin, 1992;

376 Heidegger, 1962; Arendt, 1958;

377 Leatherbarrow, 2004;

378 Braae, 2015

## 10.4 Towards an (Landscape) Atlas of Brownfields

As a final reflection, I note that this study, in revealing the impact brownfields (and de-industrialization) have on the theoretical and methodological foundations of landscape architecture, also reveals how valuable understanding the particularities of these sites is for their future transformation. I refer in particular to their spatial, material, temporal and immaterial characteristics, which I tender to term 'landscape' qualities. By the same token I note however, that the number of innovative transformations (such as the case study parks) can be counted on the fingers of one hand so to speak, when compared to the number of brownfield sites internationally. Indeed, despite the success of projects studied in this research, and growing attention to the landscape qualities of these territories, most of these sites are still subject to conventional repurposing whereby these qualities are largely overlooked. Even those initiatives involving renovation, preservation or re-integration within the frame of state-of-the-art conservation praxis often neglect these qualities. At the other end of the spectrum, I also note a more sinister development by bandwagon commissioners and practitioners in the gimmicking of brownfields and brownfield parks, by propagating an 'industrial look' as the chief activity and product of design. As such, this study inadvertently reveals that what we know about these sites – and by extension how we approach their futures - is still largely dominated by commercial and practical considerations, or by well-meaning museification or dubious ornamentation, as opposed to aspects that are perhaps the most valuable for their future transformation: the composite landscape 'syntax' (to borrow the Latz term) of these sites. In this light I also acknowledge that even in the case of the case study projects themselves, in which these characteristics played a deciding role, these qualities were also not always made evident (or acknowledged). I note that 'fortunate accidents' also occurred. In the case of innovative schemes such as Landschaftspark Duisburg-Nord, the revelation of its landscape qualities was in fact initiated by practical and economic considerations: the immense scale and number of brownfield lands in the Emscher valley that made their integral clean-up and re-purposing practically and financially prohibitive.

At best, insights into the landscape of brownfields have emerged as collateral knowledge arising from initiatives such as brownfield parks, and by subsequent studies such as this one. This situation, and the fact that the numbers of brownfields will only increase in coming years as the pace of de-industrialization continues, makes it clear that there is a need to develop a structured and comprehensive picture of brownfield lands in regard to their 'landscape' characteristics. The obvious discipline to take up this challenge is landscape architecture, but in collaboration with other disciplines. I would like to thus officially 'launch' this endeavour here, by noting the huge diversity of brownfield lands hinted at in the overview from part two in which (at least) eight different types of brownfields can be identified based on their former function: oil-lands, manufacturing-lands, dumping-lands, mining-lands, treatment-lands, port-lands, military-lands, and infra-lands [Figure 10.8]. Each of these categories generates specific elaborations of the above-mentioned characteristics, and an attendant set of challenges and opportunities. I tender this categorization as a first step in understanding brownfields not only as typologies of hazard and contamination, but as sites with particular spatial, material, temporal and immaterial characteristics. Other critical areas of study in this endeavour include the historical development brownfields in relation to urban development, and their embedding in the spatial, bio-physical and socio-spatial fabric of contemporary urban territories. These investigations may also include design research in which the potentials of these sites to address larger territorial problems in areas of social, ecological and economic sustainability are tested. Time to get to work!

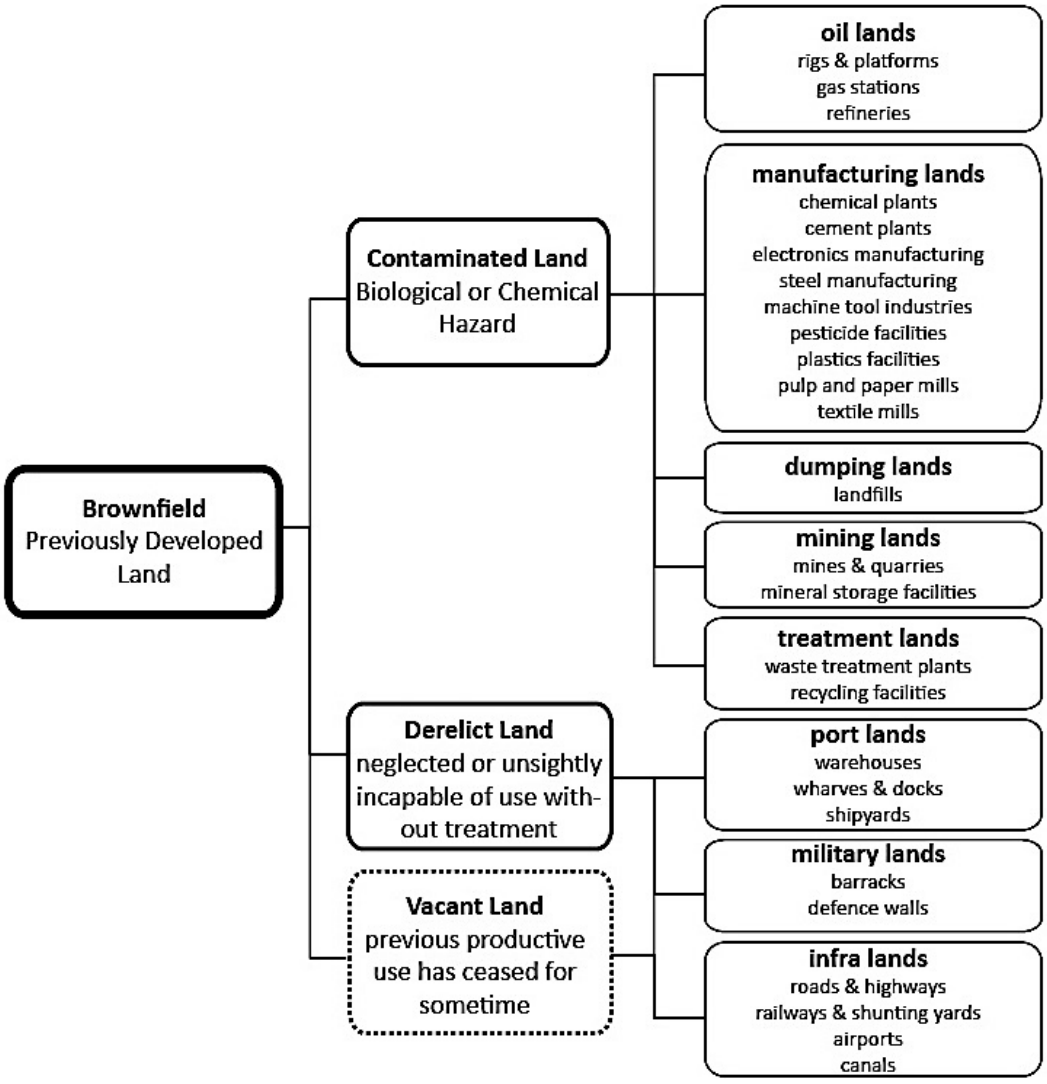



FIGURE 10.8 Categorization of brownfields into typologies according to previous function.



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# Summary

This study enlarges on the notion of composition in landscape architecture. It builds upon the 'Delft method', which elaborates composition as a methodological framework from its sister discipline architecture. At the same time takes a critical stance in respect to this framework, informed by recent epistemological developments in landscape architecture such as the site-specificity and process discourses. The notion of composition is examined from a historical and theoretical perspective, before turning to an examination of the brownfield park project realised in the period 1975-2015. These projects emerge as an important laboratory and catalyst for developments in landscape architecture, whereby contextual, process, and formal-aesthetic aspects emerge as central themes. The thesis of this research is that a major theoretical and methodological expansion of the notion of composition can be distilled from the brownfield park project, in which seemingly irreconcilable paradigms such as site and process are incorporated.

By extension, the study elaborates on the disciplinary specificity of landscape architecture as distinct to its sister disciplines architecture and urbanism, propositioning a 'radical maturation' of the foundations of the discipline in the period 1975 – 2015, via the brownfield park project. A metaphor for this process is offered by the phenomenon of ecdysis in arthropods (such as the blue swimmer crab), whereby the growth from juvenile to adult takes place in stages involving the moulting of an inelastic exoskeleton. Once shed, a larger exoskeleton is formed, whose shape and character is significantly different to its forebears. The research sketches the contours of a similar 'disciplinary ecdysis' in the period 1975-2015, whereby an evolution of design-as-composition praxis in landscape architecture takes place.

In the slipstream of these findings, the research sheds new light on the shifts in the form and content of the city itself in this period, and the agency of the urban park in the problematique of the contemporary urban realm. In the cases studied, the park typology has been able to address problems that much of the traditional apparatus of spatial planning and design has failed to do. By extension, the study reveals that many of the paradigms of urban planning and design are in need of major review in the context of deindustrialization. The urban park typology – in its guise as the brownfield park – also appears also able to shape and qualify larger urban regions. As such, the research highlights the rise of brownfield lands and their impact on the fabric of the city, the life of their inhabitants and the paradigms that dominate urban cultures, in turn fundamentally revising the definitions and agencies of notions such as city, nature and landscape.

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# Samenvatting

Dit onderzoek neemt het begrip compositie in de landschapsarchitectuur onder de loep. Het bouwt voort op de zogenaamde Delftse Methode, maar neemt tegelijkertijd een kritische houding aan ten opzichte hiervan in het licht van recente epistemologische ontwikkelingen in de landschapsarchitectuur, zoals de *site-specificity* en *process* discourses. Het begrip compositie wordt onderzocht vanuit een historisch en theoretisch perspectief, alvorens in te zoomen op het repertoire van *brownfield* parken wereldwijd gerealiseerd sinds de jaren 70.
Deze projecten blijken een belangrijk laboratorium en katalysator voor ontwikkelingen in landschapsarchitectuur rond de eeuwwisseling, waarin situatieve, procesmatige en visueel-ruimtelijke aspecten samen komen. De stelling van het onderzoek is dat een verregaande theoretische en methodologische verruiming van het begrip compositie ontstaat vanuit dit repertoire, waarin begrippen zoals *site-specificity* en process juist geïncorporeerd worden.

In het verlengde hiervan poogt de studie het proces van verzelfstandiging van de discipline landschapsarchitectuur (bijvoorbeeld ten opzichte van architectuur en stedenbouw) in diezelfde periode te preciseren. Het onderzoek stelt dat een 'rijping' van het theoretisch- methodologische fundament van de discipline plaatsvindt in de naoorlogse periode, een proces dat vooral evident is in de opeenvolging van brownfield park projecten vanaf de jaren 70. De voorgestelde metafoor voor dit proces is het fenomeen van *ecdysis* (vervelling) bij geleedpotigen dieren, waarbij de groei van juveniel naar volwassen stapsgewijs plaatsvindt door het afwerpen van een inelastisch exoskelet. Eenmaal afgeworpen wordt een groter exoskelet gevormd, waarvan de vorm en het karakter aanzienlijk verschillen van de voorgangers. Het onderzoek schetst een 'disciplinaire ecdysis' in de periode 1975-2015. In deze periode vond een ontwikkeling plaats van de praktijk van ontwerp-als-compositie in de landschapsarchitectuur (in plaats van er afscheid van te nemen).

In het kielzog van deze bevindingen werpt het onderzoek nieuw licht op de verschuivingen in de vorm en inhoud van de stad zelf in de laatste vier decennia, en de rol van het stadspark in de problematiek van de hedendaagse stadsregio. In veel gevallen blijkt het brownfield park in staat doelstellingen te realiseren waar gangbare instrumenten vaak tekortschieten, alsook invloed te kunnen uitoefenen op de vorm en inhoud van hele stadsgewesten. Uiteindelijk wordt ook middels deze parken duidelijk dat veel van de paradigma's van de hedendaagse plannings- en ontwerpcultuur aan herziening toe zijn. In bredere zin laat de studie dus ook zien dat de impact van de-industrialisatie en de relicten hiervan (brownfields) zodanig is dat begrippen als 'stad', 'natuur' en 'landschap' opnieuw grondig tegen het licht gehouden moeten worden.

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## Introduction


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FIGURE 10.8 Categorization of brownfields into typologies according to previous function

# Biography



Rene van der Velde (1966) was born in Sydney, Australia. He studied Environmental Management at the University of Queensland, and Landscape Architecture at Greenwich University, London & the Academy of Architecture, Amsterdam. He was project Architect with Bureau Alle Hosper between 1991 & 1997 was on the team for the winning proposal for Federation Square in Melbourne, Australia. In 1998 he established DEEPend Landscape Architects in Melbourne with Marie-Laure Hoedemakers, leading the external works team for the design and documentation of the Square. From 1999 he was lecturer in the undergraduate programme of Landscape Architecture at RMIT University in Melbourne and from 2001 Graduate Program Co-ordinator. In 2003 he returned to the Netherlands and in 2007 he was appointed Associate Professor of Landscape Architecture at the Technical University of Delft, heading up the introduction of a new master programme in Landscape Architecture. He was leader of the research group Urban Landscape Architecture between 2011 and 2017.

His research focus is the diaspora of urban green spaces emerging out of the park typology such as greenways, metropolitan parks, recreation areas and brownfield parks. The foundations of park design, including their elaboration as experiential environments, socio-ecological milieus, and catalysts for urban development form central themes in this focus. His work in this area has been published in journals and book chapters, and exhibited at the International Architecture Biennale Rotterdam.

In applied research, he investigates the role of urban landscapes in relation to contemporary (urban) economic, social and environmental challenges, with an increasing focus on urban trees & forestry, urban biodiversity and community landscapes. In this role he also regularly contributes to societal discussions around public open space issues.

He was editor of SPOOL Journal of Architecture and the Built Environment and is advisor to national, provincial and local authorities in the Netherlands. He teaches in undergraduate and graduate programmes at the Faculty of Architecture, TU Delft, with a focus on the master track landscape architecture.

He has published on a range of topics including: composition theory & methodology; urban landscape characterisation; landscape urbanism; brownfield transformations; infrastructural landscapes; urban biodiversity; social sensing; & environmental philosophy.

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