Claudia Maria Höhenberger, BSc

Parklife.
An examination of four contemporary urban green spaces

MASTER'S THESIS

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Univ.-Prof. Mag.Dr.phil. Anselm Wagner

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For my parents
Elfriede und Wolfgang Höhenberger,

who taught me to be curious, inquisitive,
and to face the world with an open mind,
head-on.

Acknowledgement

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Abstrakt deutsch

Die Masterarbeit untersucht vier städtische Grünräume, welche innerhalb der letzten 23 Jahre der Öffentlichkeit zugänglich gemacht wurden (High Line in New York, Queen Elizabeth Olympic Park in London, Landschaftspark Duisburg Nord), beziehungsweise sich zum Zeitpunkt der Fertigstellung der Arbeit noch in Planung befanden (Garden Bridge in London).

Es wurde untersucht inwieweit die Grünflächen sich ins städtische Gefüge einordnen, welche Möglichkeit zur körperlichen Bewegung es in den Parks gibt, welche baulichen Entwicklungen es in der Umgebung der Parks seit ihrer jeweiligen Eröffnung gab, wie hoch die Errichtungs- und Erhaltungskosten sind und wer diese bezahlt, inwieweit das Konzept der "Nachhaltigkeit" eine Rolle spielt, wie viele Besucher jährlich kommen und ob der Hang zu ikonenhaftem Design das Aussehen der Parks beeinflusst hat. Ausserdem wurde untersucht, wie die Projekte im Sinne des heutigen Landschaftstheoretischen Diskurses einzuordnen sind.

Das Ziel der Arbeit ist es zu zeigen, welchen Bedingungen die Entstehung von Parks zugrunde liegen, von welchen Faktoren sie geformt werden und wie sie im Gegenzug die Stadt formen, in der sie sich befinden.

Abstract english

This Masterthesis examines four urban green spaces which were either built or planned to be built within the last 20 years (High Line in New York, Queen Elizabeth Olympic Park in London, Landschaftspark Duisburg Nord; Garden Bridge in London).

These parks were examined with regards to how they fit into the urban fabric and which possibilities for physical recreation they offer. It was studied what kind of and how much real estate development has happened since they were constructed. The amount of their construction and maintenance costs and how these costs are met were also analyzed. The role of sustainability in the marketing of the urban green spaces was critically looked at. The number of visitors both physical and virtual was investigated as well as how the demand for iconic design shapes our cities. The parks' position in the current theoretical landscape discourse was also discussed.

The aim of this thesis is to show the reasons for building urban green spaces today by examining how these parks came into existence, how they were formed by the circumstances mentioned above and how they in turn shape the cities they are located in.

Disclaimer: On April 28th 2017 London Mayor Sadiq Khan withdrew financial support for the Garden Bridge after an independent review, which means that the scheme will not meet the required conditions of planning approval from Westminster and Lambeth councils, probably cancelling the project altogether (Mairs 2017). The majority of this thesis was produced before this announcement was made and therefore under the assumption that the bridge would get built.

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There are no words that can tell the hidden spirit of the wilderness, that can reveal its mystery, its melancholy and its charm.
Theodore Roosevelt

01 – INTRODUCTION

In June of 2013 then Mayor of London Boris Johnson revealed that a new bridge would be built in the center of London. What made the pedestrian crossing special was the fact that a garden would be built atop of it. The bridge was presented as an oasis of calm in the middle of busy London, an opportunity for relaxation, contemplation, and to enjoy nature at its finest. At first well received by the public and scheduled for completion by 2016, the discourse soon swayed and as of June 2017 construction had still not started. So where did it all go wrong for this 'floating paradise over the Thames'? The Garden Bridge is a spiritual descendent of the acclaimed High Line in New York City, opened for the public in 2009 and since then highly celebrated by experts and visitors – foreign and domestic – alike. These two projects are exemplary projects for a new approach to city planning, where nature is no longer an ornamental afterthought but instead an integral part of the design and function of the city.

In the past, nature was often seen as threatening and something people had to be protected from. Today however, it is apparently nature that needs protection from man. As a corollary of this attitude, a wave of proposals for new urban parks has emerged. These new green spaces are often planned on former industrial sites that have been abandoned and left for decay. The High Line's history is an epitome of this phenomena and indeed it seems that many park projects simply try to duplicate the success of this New York landmark. But what makes the High Line such an outstanding project? How did it become this icon

of urban planning? Which factors have a determining influence on a park's success?

American landscape architect and scholar Alan Tate notes that parks play a vital role for cities and their people. But while their value is widely acknowledged, their funding is, compared to other public expenses, relatively small. Parks have free access and therefore no direct revenue can be made from them – as a consequence their impact on society can not be easily measured in monetary terms. However, these large green spaces can be used for a wide variety of events. Parks' openness and tranquility, the sense of freedom, their biodiversity and the ability to maintain a relationship with nature are 'part of our common cultural capital' (Tate 2015, 1–3).

When American architect, journalist, social critic, and landscape designer Frederick Law Olmsted planned Central Park he noted that the main commodities of building parks were health benefits for body and soul, contact with nature as a relief for people living in the crowded city, and an increase in real estate value in the area adjoining the park (Boone and Modarres 2006, 163). All these reasons resulted directly from the challenges cities faced in the 19th century, among them the overcrowded quarters of the poor and the lack of free spaces not only for leisure but more importantly to sustain people's health. But do these factors mentioned by Olmsted and Tate still play a part in the creation of parks today? Are these motives still relevant? Or do we need to consider other – probably more relevant – aspects?

In order to understand why parks get built today, they obviously need to be studied directly. For this purpose this thesis closely examines the aforementioned High Line and Garden Bridge. Since the Garden Bridge is not a former industrial site – as many of the new wave parks are – another relatively new London park was chosen to examine this and other aspects of park development today: Queen Elizabeth Olympic Park (QEOP). Given that this park is much bigger than the other two, a fourth urban green space was selected to ensure comparability: Landschaftspark Duisburg Nord (LaPaDu) in Germany. The High Line and Garden Bridge as well as LaPaDu and QEOP are similar in shape, size, scope, and urban setting. The main difference between LaPaDu and the other three case studies is its age: the park was first opened in 1994, 15 years before the High Line and almost 20 years before QEOP were opened. These case studies will help to better understand what the effects of urban parks on the cities are. Even though no project can be directly transferred from one place to another, these examples are studied in order to learn from mistakes past, things done well, and how the strategies developed within these undertakings can be applied to other projects. It will be interesting to show how the ideas of – literal – post industrial design for landscapes has developed over the past 25 years.

By studying these parks it became apparent that there are indeed many new factors that are vital for park design today. For the purpose of this thesis, three of these new aspects were chosen for further examination: ecological concerns, the role of images in design, and the shifting relationship between city and landscape. This work does not deal with the suburban movement, but focuses on green spaces and parks within city boundaries instead.

Chapter 2 provides a short overview for the parks analyzed in this thesis.

Following this, Chapter 3 assesses the parks' health benefits in terms of their provision for physical recreation and activity. The positive effects of green spaces for physiological and psychological well-being have been documented – among others – by Alcock, Kaplan, Colquhoun and serve as a starting point for this thesis. The case studies are examined in terms of what kind of physical exercise they make available for their visitors.

Among others, Alyia Bernatzky and Charles Waldheim attested the deeply rooted connection of man and nature and its importance to the city. The parks are closely analyzed in regard of this aspect in Chapter 4 in order to ascertain their capacity for 'contact with nature' and what that actually means in terms of making nature accessible to people, how nature is used as an element of design, and the green spaces' general relationship and interaction with the immediate surrounding city.

The High Line quite famously and visibly started a redevelopment boom in the West Chelsea area. In order to understand to what extent parks generally spur the redevelopment of their surrounding areas, a visual analysis of the region before and after the park's opening is conducted in Chapter 5. In addition to this, the parks' overall costs – construction and maintenance – and general economic value are analyzed. Special attention is given with regard to the development of real estate value in the adjoining area as observed by John L. Crompton. How and if these factors might contribute to sway development in favor of new parks is also looked at.

Queen Elizabeth Olympic Park proudly boasts its record with regard to sustainability, ecology, and similar buzzwords. These neologisms are prevalent in the parks' marketing material and informational brochures. The effects of rhetoric concerning sustainability have been investigated by Myers and Macnaghan, while Michael Loughlin examined how buzzwords are used in policy formation. Chapter 6 does not examine the actual ecological record of the parks but instead takes a closer look at how they use marketing language and the dangers and benefits associated with this strategy. In addition to this the case studies are analyzed in regards to Crantz and Bolands theory of park design movements.

The Garden Bridge does not even exist yet and yet its image can already be found in design magazines, blogs, and on social media sites. The park can be virtually experienced long before anyone will ever see it in real life. This is also true for the other case studies. Schama, Lynch and Sontag have examined this phenomenon, while Zimmer and Proferes explored the role of social media as a measuring tool for real life. How the perception of landscape has changed over the years especially in regards to photography, the influence of tourism, and how the ever present possibility of shaping the parks image has influenced its design is closely studied in Chapter 7.

Lastly, the connection between landscape and the city itself and how this duality is expressed in the parks' design is assessed in Chapter 8. Charles Waldheim, Erik Swyngedouw, Michael Pollan and others have examined the changing relationship between city and landscape while this thesis examines how the case studies fare between these poles.

The aim of this thesis is to study the parks under the aforementioned aspects, to furthermore learn

how these factors have influenced the green spaces, and to which extent these factors contributed to the parks' success or failure as a place to encourage healthy behavior, to enjoy nature, to serve as a motor for redevelopment as well as a visitor destination, to promote sustainable goals, and to serve as part of the urban fabric.

02 – THE PARKS

02.01 – High Line

The High Line (HL) in New York City is a linear park that spans 2.4 km from Gansevoort Street to 34th Street at the north end in West Manhattan. The 2.8 ha park was built on top of an abandoned elevated freight train railway line. The first section was opened for the public in 2009 (Tate 2015, 34).

Figure: 1. High Line, Washington Grasslands

Figure: 2. Map of High Line and surrounding area

02.02 – Garden Bridge

The proposed Garden Bridge is a pedestrian bridge spanning 366 m from the National Theatre to Temple Station. It traverses the river Thames and will be situated between Waterloo bridge and Black Friars bridge. It was originally planned to be operational by 2018 but as of 2017, construction has not yet started (Frearson 2013).

Figure: 3. Garden Bridge rendering

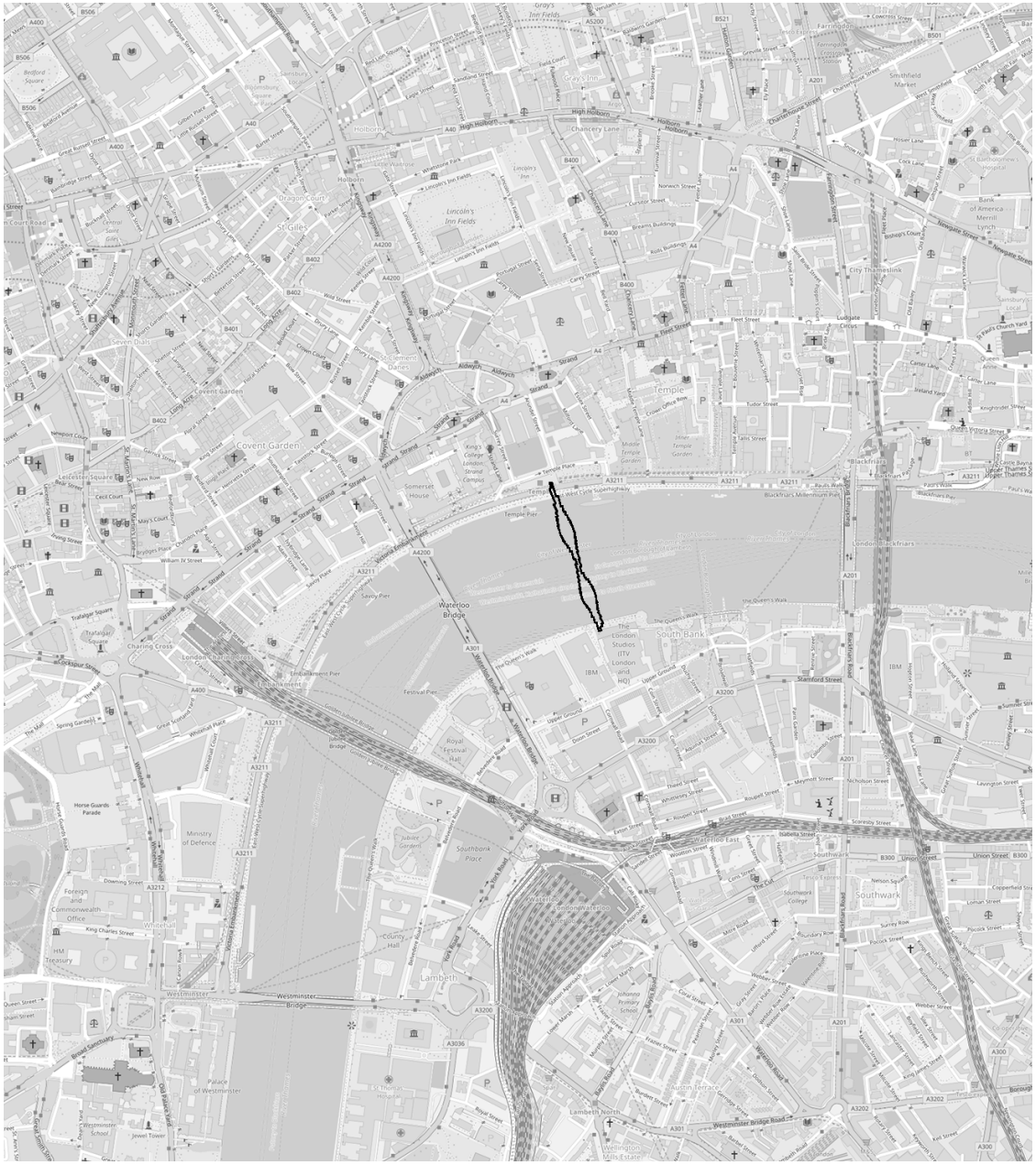

Figure: 4. Map of Garden Bridge and surrounding area

02.03 – Queen Elizabeth Olympic Park

The Queen Elizabeth Olympic Park is situated in the boroughs of Hackney, Newham, Tower Hamlet, and Waltham Forest in east London. The former industrial site was the main venue for the 2012 Olympic Games and was subsequently adapted as a public park. As such it was reopened in July 2013 (Tate 2015, 151). Before redevelopment the site was primarily used as a landfill and warehouse site (Olympic Delivery Authority 2007, 19–20).

Figure: 5. QEOP flyover rendering

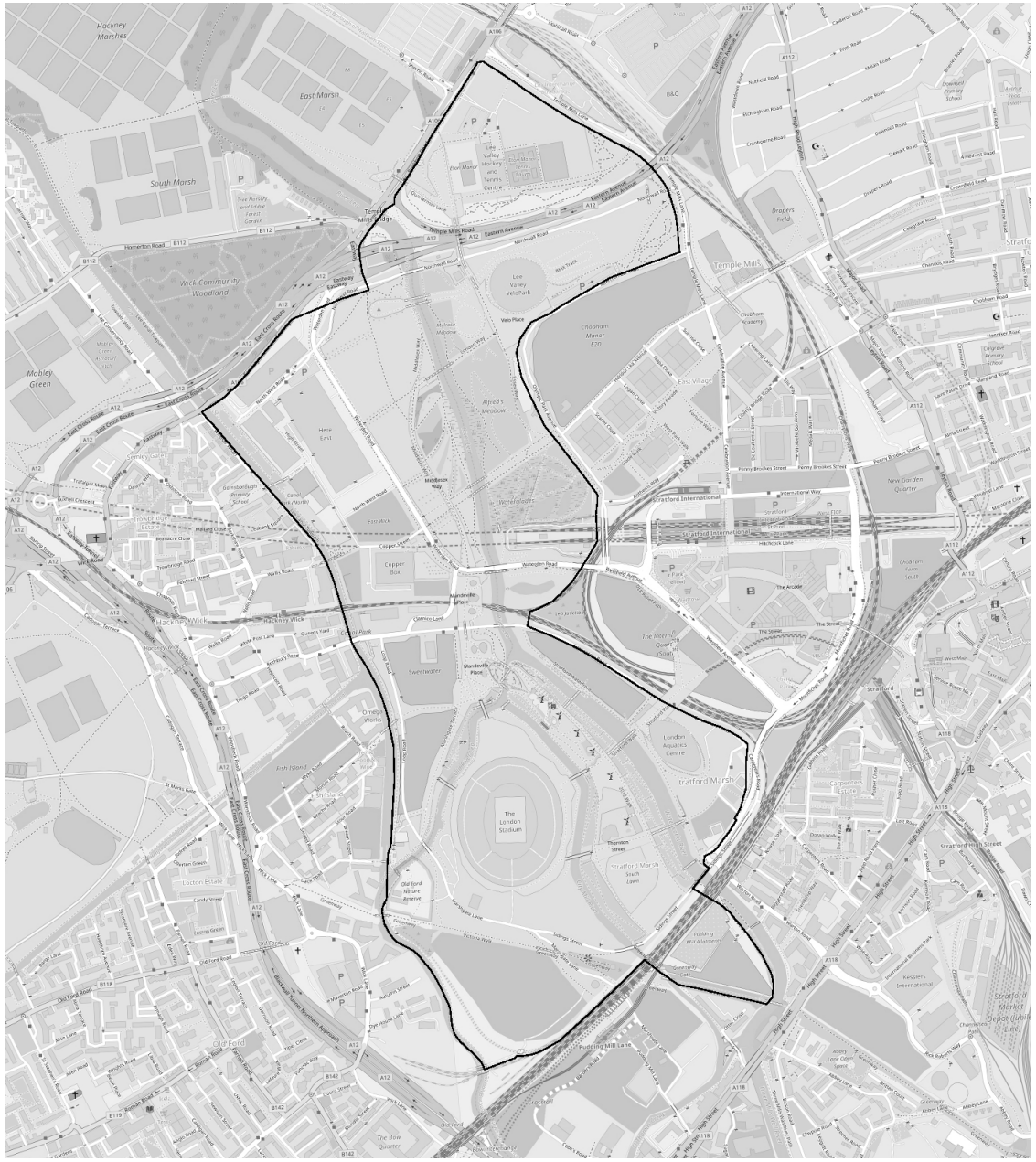

Figure: 6. Map of QEOP and surrounding area

02.04 – Landschaftspark Duisburg Nord

Landschaftspark Duisburg Nord (LaPaDu) is 189 ha in size and was first open for the public in 1994. It is part of the Internationale Bauausstellung Escher Park from 1989, a 800 km2 regional park spanning 75 km from Bergkamen in the east to the Rhine in the west, largely following the course of the river Emscher. The park was converted from a former steel production plant. This project meant to demonstrate the ecological, cultural, and social measures to reinvigorate and economically change the old industrial region (Tate 2015, 195).

Figure: 7. LaPaDu abandoned steel plant

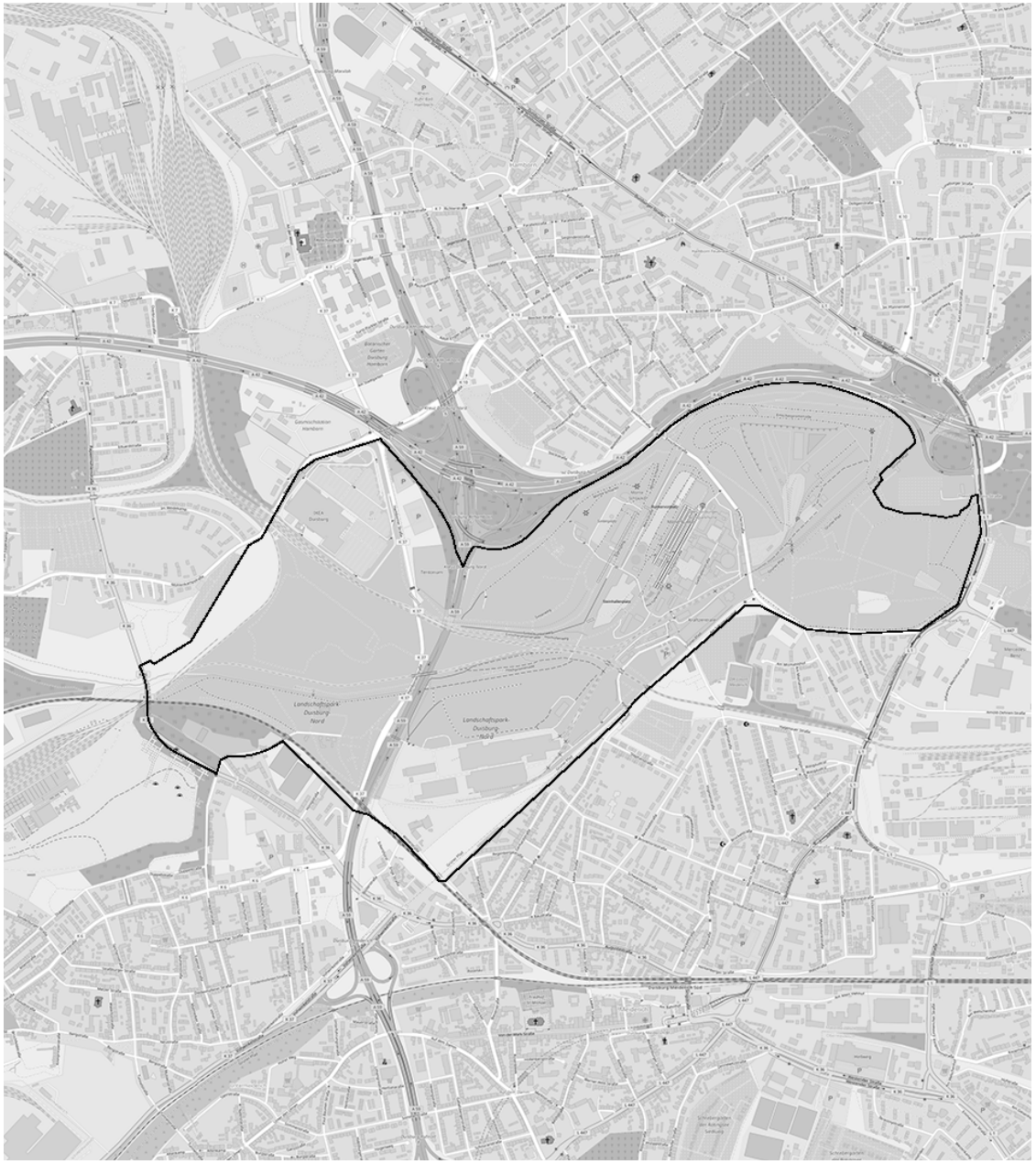

Figure: 8. Map of LaPaDu and surrounding area

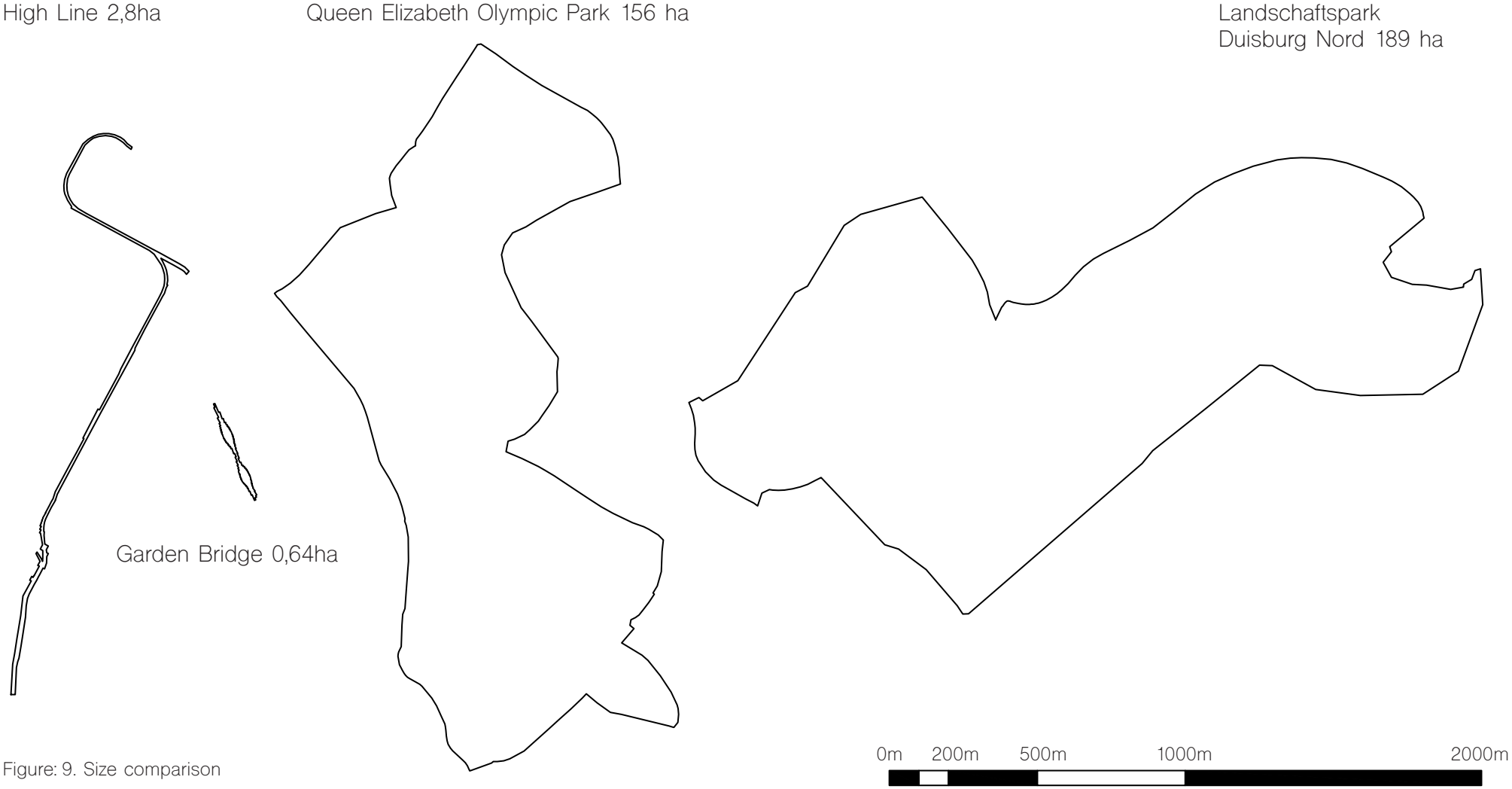

Figure: 9. Size comparison

	High Line	Garden Bridge	Queen Elizabeth Olympic Park	Landschaftspark Duisburg
Size	2,8 ha	0,64 ha	156 ha	189 ha
Shape	leisure park	linear	leisure park	linear
designer	Field Operations Diller Scofidio + Renfro	Thomas Heatherwick (bridge) Dan Pearson (planting)	EDAW consortium	Peter Latz + Partner
formerly used as	railway line	-	landfill, industrial and warehouse sites	steel plant
timeframe				
abandonmnent	1980	-	partly still in use by 2005	1985
idea	1999	1998	2003	1988
announced	1999	2013	2005	1988
begin of construction	2006	-	2005, ongoing	1990 ongoing adaption
opened as park	2009 (phase 1) 2011 (phase 2) 2014 (phase 3)	-	2013 (park) (olympic games 2012 - further adaption necessary)	1994 (partially) 2001 (Visitor centre)

Figure: 10. Overview Parks

I go to nature to be soothed and healed,
and to have my senses put in order.
John Burroughs

03 – HEALTH

According to the constitution of the WHO, 'health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity', declaring health a fundamental right for everybody (World Health Organization 2006, 1). In answer to explosive urban growth the WHO adopted the Healthy City Movement in the 1980s which among other things aims to create a clean and safe physical environment, promotes and celebrates its historical and cultural heritage, and rests on a sustainable ecosystem (Chatzicocoli and Syrakoy 2009, 15–16).

These ideas are not entirely new: in ancient Greece the concept of a healthy environment was understood to be a product of the harmonious collaboration between man and the divine healing powers of nature, with Asklepieion (healing temples) representing a physical manifestation of these ideas (Chatzicocoli and Syrakoy 2009, 22). The natural environment (amid facilities for religion, sports, art performances, and education) played an important part in getting well, with a sacred forest dedicated to the Gods and its wild beauty protected by Nymphs always attached to Asklepieia (Chatzicocoli and Syrakoy 2009, 23–24).

Whereas the Greek healing temples primarily focused on people healing and getting well, the WHO Healthy Cities project concentrates on putting health on the agenda of city governments (social, economical as well as political) as a prophylactic measure (World Health Organization 2016b). The creation of a health-supportive environment, achievement of good quality of life, the provision of basic sanitation and hygiene needs, and access to health care are the core aims of the scheme (World Health

Organization 2016c).

Health is a complex process, involving income, education, social support networks, genetics, health services, gender, and physical environment (World Health Organization 2016a). In addition to these external factors that cannot be easily influenced by individuals, diet, sleep, self-care, and physical exercise are often cited as the main determinants of a healthy life. In urban settings, parks can offer an easy access point for activities like walking, running, riding a bike, and many more.

The parks built at the beginning of the 20th century followed the pattern developed in the preceding century. They functioned as outlets for the nature-deprived masses to reconnect with the environment, which they no longer experienced on a daily basis. Therefore, they not only followed the Victorian design ideals but also the leisure patterns then observed. But it soon became evident that the ideals of a 19th century Sunday afternoon walk could no longer hold up to the changed needs of the 20th century society. People now longed for play grounds, sport areas and other activity zones in addition to passive recreational areas and added land value led to an increased attention towards open space usage (Tandy 1972, 101).

Green spaces in cities are not a beautiful luxury but an inevitable requirement for physical and psychological health (Bernatzky 1971, 55). Even though benefits in terms of achievement, personal development, and health are immense, people living in inner-city areas are less likely to participate in sports and recreation (Colquouhn 1995, 23). The availability of recreational areas and the possibility for physical activity, games, and sports are diametral to health, relaxation, and well-being (Bernatzky 1971, 49). The beneficial effects of green spaces for psychological wellbeing have been shown (among many others) by Alcock et. al by proving that people's mental health was significantly improved after moving to green areas compared to before the move and also in relation to people moving away from green areas, an effect that was detectable short term as well as three years later (Alcock et all, 2014, 1252).

The access to natural environments (even just the view of trees) provides people with a notion of peace, quiet, and fascination which are all things that are deeply important to human beings and therefore entail enjoyment, relaxation, and lowered stress levels – in short many psychological gains (Kaplan and Kaplan 1989, 172-3).

In order to bring children (and in consequence adults) to the park, it has to offer a perceived safe environment, be clean and well maintained, should be close to home and must not be boring: Sport facilities, especially football fields, basketball courts and bike routes are, along with playgrounds, among the most important structures to enhance interesting, fun and varied physical activity and therefore increase the attractiveness and use of parks (Loukaitou-Sideris and Sideris 2010, 94). Another important factor is the general accessibility of the park – the better it is connected to the urban area, the more likely it will be used. It can also be observed that while parks are generally more important in cities than suburban areas, where the proximity to nature can make parks redundant, the size of the space provided is important, for when it is too small, it will not be used (Loukaitou-Sideris and Sideris 2010, 97).

03.01 – High Line

The High Line in New York spans 2.4 km from Gansevoort Street to 34th Street at the north end. Like LaPaDu and QEOP, the former railway line had to be cleaned from industrial pollutants before it was safe to be used by the public while at the same time the goal was to preserve the found and wild state of the elevated promenade (Tate 2015, 44). It takes about 25 minutes to walk the landmark in its entirety. In addition to the masses of tourists that swarm the park, people go for walks and runs. Skateboarding, walking offside the designated areas, and cycling is banned as stated by the rules posted at every entrance. From June to September, Tai Chi 'specifically designed to improve health' is offered every Tuesday morning, hosted by the Taoist Tai Chi Society which is located in the im-mediate neighbourhood of the High Line (Friends of the High Line 2016b).

Figure: 11. Tai Chi on the High Line

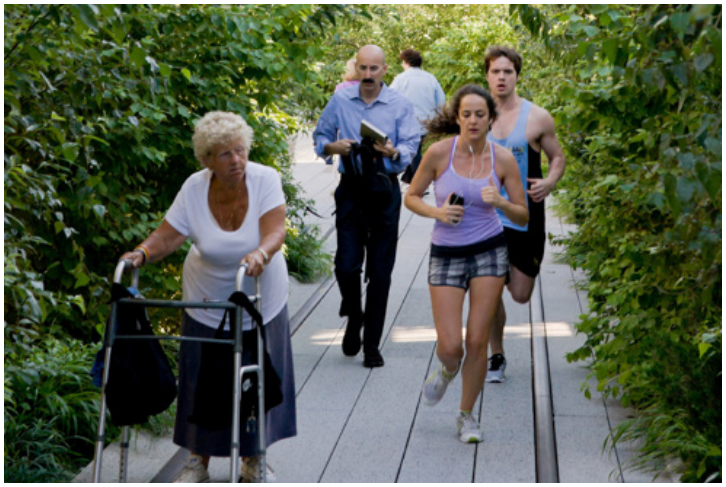

Figure: 12. People running on the High Line

03.02 – Garden Bridge

The proposed Garden Bridge in central London cites the opportunity for walking as one of its main benefits. The Garden Bridge Trust claims that the 10 minute stroll across the 366 m bridge (equating 450 steps) would provide significant transport benefits to Londoners, which supposedly will encourage walking overall (a third of visitors are expected to be commuters) and provide significant health benefits (Garden Bridge Trust 2015). In addition to these physical benefits, the 'recreation of the soul' has also been named as a gain by former Mayor Boris Johnson (Moore 2014). Commuters going through Waterloo Station will allegedly benefit from the additional river crossing, it 'will improve the quality of life for everyone in London' and 'be a place to set hearts racing and to calm troubled minds' according to a promotional video narrated by Joanna Lumley, one of the main driving forces behind the bridge (London Communications Agency 2014, 00:56).

Figure: 13. Rendering of the Garden Bridge

At the moment it takes about 15 minutes to get from Temple station to the London Television Centre, which means that people who will choose to use this 'quick and beautiful route' over the Garden Bridge can shave off 5 minutes of their commute. TfL assumes that due to more walking trips and the resulting increase of physical activity 0.37 to 0.7 deaths will be prevented per year (Greater London Authority 2014f, 12). Besides walking, jogging is the second physical exercise permitted on the bridge. Riding a bike, playing games, or doing sports other than running is prohibited.

03.03 – Queen Elizabeth Olympic Park

The Landschaftspark Duisburg Nord served as a precedent for many similar developments. One of these is the Queen Elizabeth Olympic Park (QEOP) in Stratford, London, where the main venues for the 2012 Olympic Summer Games were built. Some of these facilities were only temporary constructions to be demolished after the Games, others were adapted to be used by sports clubs and the general public. The area itself has been turned into a free access public park, serving as a recreational area for East London.

Figure: 14. Running event at QEOP

Like LaPaDu, the QEOP had to be cleaned from industrial waste before it could be safely redeveloped. The site had been used as a dumping ground and the consequent pollution was dealt with by using soil-washing machines to get rid of partially poisonous contaminants such as oil and tar, petrol, and heavy metals like lead and arsenic (Hopkins and Neil 2013, 175).

The post-game legacy was a central part for the redevelopment process. The reuse of event venues for local sports clubs was planned from the outset. The main stadium is now home to West Ham United. The Copper Box provides a gym, group exercise, badminton, and basketball courts, the Aquatics Centre is equipped with numerous pools and a gym, the VeloPark boasts numerous opportunities for cycling sports, and the Lee Valley Hockey and Tennis centre is furnished with indoor and outdoor facilities. In addition to these venues, community sports projects enable local residents to engage in sports and physical activity as part of healthy living outreach programs in a number of different ways (Queen Elizabeth Olympic Park. 2016b). The park itself is used for running, cycling, walking, and other outdoor sports and also provides multiple play areas for children. The parks cycle network is connected to Cycle Superhighway 2 running from Stratford to Aldgate. The physical well-being of the population and engaging people is one of the park's major purposes, functioning as a living legacy of the Olympic Games.

Even though the park offers many possibilities for leisure and recreation, one of the dangers is that the people benefitting most from these facilities are not locals, but instead more affluent commuters, as is the case with the sports venues built in Barcelona for the 1992 Olympic Games (Colquhoun 1995, 23-24).

03.04 – Landschaftspark Duisburg Nord

Duisburg is situated in the Rhine-Ruhr metropolitan region, an area that historically was characterised by heavy industry and therefore the Ruhr District was heavily polluted. This in turn posed a health threat to the population of millions of inhabitants with high rates of leukemia, cancer, rachitis, and changes in blood count (Seher 2011). Here health was not an abstract concept – the air literally made people sick. Even though then-chancellor Willy Brandt noted as early as 1961 that the situation had become unacceptable and demanded (at an election rally) that 'the sky over the Ruhr has to become blue again', it would take years until this claim was realised, and even then it was largely due to the fact that the heavy industry had been closed down over time (Bitzer 2016).

The Landschaftspark Duisburg Nord was created on the site of a former coal and steel production plant which was abandoned in 1985. The contamination of the site due to the heavy coal and steel industry was fundamental. The design by Latz + Partner is meant to show a balance between the artificial and the natural, not showcasing the idea that nature re-conquered the park for itself (Tate 2015, 202). Soils containing arsenic and cyanide had to be buried or removed from the site. The river Emscher which had deteriorated into a canalised open sewerhas been redirected to run through an underground pipe, whereas the water now flowing on the original line is filtered rainwater aerated by the on-site wind turbine (Tate 2015, 198).

The park offers a wide array of sports and other recreational facilities in addition to play areas, hike and bike trails. The leisure program includes diving in a former gasometer, archery, mountain biking, climbing facilities in the former ore bunker complex, and a high ropes course in a former casting house. This extensive offer is rounded off with sports and cultural events.

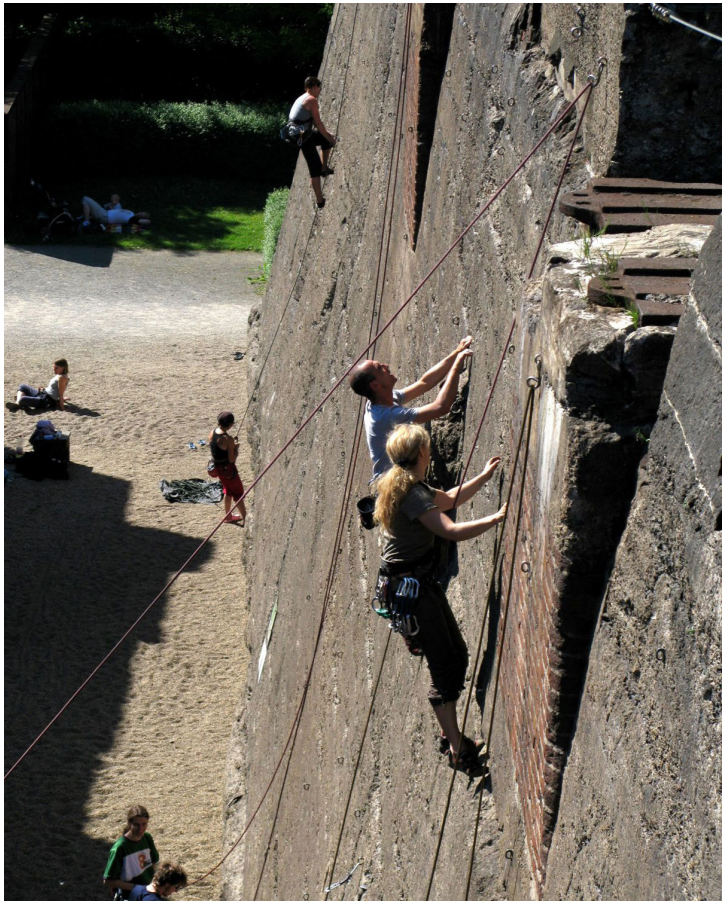

Figure: 15. Kletterwand Erzbunker

03.05 – Summary

While physical well-being is at the forefront for QEOP and LaPaDu, The Garden Bridge and High Line lay its focus elsewhere – the opportunity to spend time in a green space. The proximity to the natural environment was one of the virtues of parks as mentioned by Olmsted and as such will be closer examined in the following chapter.

	High Line	Garden Bridge	QEOP	LaPaDu
walking	x	x	x	x
hiking			x	x
biking			x (indoor + outdoor)	x
BMX			x	x
play area			x	x
football			x (Hackney Marshes)	x
swimming			x	x (diving pool)
climbing			x	x
other	x (Tai Chi)		x	x

Figure: 16. Sports facilites in the parks

I love not Man the less, but Nature more.
George Gordon Byron,
Childe Harold's Pilgrimage

04 – CONTACT WITH NATURE

After improving the living conditions of the factory workers, access to nature traditionally was the second major raison d'être for urban parks. Today this factor is as important as ever, and the experience of nature in any way, shape or form is a main objective in park design. The connection to primary nature like trees and open green spaces and the experience of natural sensations (even in highly engineered civilisations) is deeply rooted in the human psyche (Bernatzky 1971, 49). Within cities, this mainly encompasses perfectly controlled, human made environments that have little to do with romantic notions of wilderness. In the past large pastoral parks like Central Park served as a contrast to the surrounding urban area. Today green squares are regarded as critical to the future of the city, not just as recreational spaces but as 'living monuments' like Park Güell in Barcelona or the High Line in New York, often serving as venues for concerts, fundraising events, art galleries, tourist destinations, and putting emphasis on human and ecological health (Tate 2015, 311).

Before parks were public, manmade natural environments were often used to show off the wealth of their owners. To have lands that were not dedicated to farming (or needed otherwise) but could solely be used for pleasure was a prerogative of a wealthy few. Farmers and those living off the land were and still are in constant contact with nature anyway. As a reaction to this, Ebenezer Howard's Garden City concept was also a social movement, combining the city and the country to provide an alternative to living in crowded and unhealthy cities

and working on farms (Howard 1902, 2–7). Corbusier's Ville Radieuse sought to create a classless settlement where the buildings were raised off the ground to create a continuous parkscape that could be used by everybody, leaving pedestrians to walk around freely (Frampton 1980, 180). While they worked with nature, both these ideas emphasised the difference between the town and its environment and made nature accessible for everyone.

In the last few years, this dichotomy of nature and city has been largely abandoned in favour of a new understanding of landscape – the built environment is no longer seen as the opposite of the natural environment but as an extension of it. Landscape is not something tagged onto the city as an afterthought, but is seen as a tool to design the city itself instead of just designing the buildings (Waldheim 2010, 21). A side effect of this development is that people in cities are now theoretically constantly in contact with and more aware of nature.

04.01 – High Line

The High Line is a linear open space in the West Chelsea neighbourhood of Manhattan. As such it provides an opportunity for informal recreation. While

Figure: 17. Falcone Flyover at 25th Street

most of the High Line is open to the public, there are some areas that can only be looked at but not walked on, where plants are left to grow 'wildly'. But of course, these patches are as well groomed as the rest of the park and only appear to be in the primal state that Joel Sternfeld found when he took the momentous pictures of the decaying structure in 1999 and 2000. These images presented a post apocalyptical version of New York, showcasing a savage state devoid of humans. They were integral in creating the myth of the High Line and their melancholy beauty inspired huge support for the project (Tate 2015, 37). After a massively successful fundraising campaign and subsequent architectural competition James Corner Field Operations, Diller Scofidio + Renfro and garden designer Piet Oudolf were chosen to design the park with a landscape architecture-driven design approach that recognizes the ruderal character (Tate 2015, 34).

Nowadays, the flyover can be reached via various staircases and lifts and is therefore in a way detached from the city. At the same time it is deeply immersed in it, flowing through backyards and opening views that exist in similar ways all over the city but are mostly hidden from the public. The High Line's surroundings are an integral part of the park experience. The outward views are always shifting from backyards to the Manhattan canyons as one moves along. The interaction between nature and the encompassing buildings, where artworks and graffiti can be found on the walls, creates a contrast that accentuates the beauty of both. Ever-changing artworks and art installations like 'The River That Flows Both Ways' are found everywhere on the High Line, creating a further 'otherness' of place.

In addition to the artworks, the architecture of the High Line itself also creates unexpected relationships with the city, like the 10th Avenue Theater, where cars constantly pass under the elevated bridge, turning the street into a stage and park visitors into the audience of a never ending play. Junctions like this, where the High Line clashes with the city, the railway line clashes with the street, and nature clashes with civilisations

Figure: 18. Greenspaces close to the High Line (in black)

open new perspectives by reframing their context and forcing visitors to contemplate and reevaluate their relationship towards the city, nature, and time. Or, alternatively, guests can simply snap a pretty picture. As such, this much-hyped elevated roof garden works less like a park and more like a piece of landscape art in the vein of Christo and Jeanne-Claude.

The buildings on either side of the green space are either completely new developments or are in various stages of decay. These new developments are a direct result of the High Line's effect on the area. (see Chapter 05 – Real Estate).

The no longer derelict structure of the former industrial railway line serves as a contrast to the feigned wilderness it frames, one accentuating the other. But naturally, the manicured composition only tangentially resembles the wasteland found by Sternfeld and immortalised in his highly idolised pictures. Joshua David and Robert Hammond were aware of the fact that the initial wilderness would be destroyed by converting the High Line into a public park (Tate 2015, 40). Arguably the movement to preserve a piece of 'wilderness' in the heart of Manhattan lead to its complete overhaul and destruction. Nature might have conquered the industrial ruins after the last train passed in 1980, but in turn humans swiftly retook the structure and scraped the state of neglect it had been left in. While bits and pieces here and there are preserved and exhibited as seemingly untouched or made to look as if plants were occupying man-made objects, the structure is, for the most part, a highly maintainenced piece of art. The High Line offers free guided walking tours, explaining the structure's history, design, and landscape (Friends of the High Line 2016c).

04.02 – Garden Bridge

With the immense financial success of the High Line many cities try to copy this accomplishment. The Garden Bridge is supposedly London's answer. The bridge was hailed as a new 'icon' for London by George Osborne (then-Chancellor of the Exchequer) and described as a 'very exciting scheme' by then Mayor of London Boris Johnson in 2013 (Hurst 2015).

The Garden Bridge, like the High Line, was planned as a linear open space, spanning from Temple Station to the South Bank, neighbouring the Brutalist National Theatre as well as the ITV Studios. Waterloo Bridge and Blackfriars Bridge are close by, allowing visitors to those river-crossings the perfect view of the Garden Bridge.

The Garden Bridge is intended as a calling card for design in Britain today, showcasing British innovation and expertise in landscape, design, and engineering by demonstrating skills in civil engineering, adaptability to environmental risk and climate change under a strong national brand (Greater London Authority 2014c, 6). TfL declares that The Garden Bridge will be a green promenade providing a unique experience in London, planted with flowering shrubs, trees, grasses, and herbaceous plants producing an elevated public space and urban park, combining the functional requirements of making movement in central London more effective while creating an unparalleled landmark capable of drawing an audience (Greater London Authority 2014c, 10).

Figure: 19. Rendering of the Garden Bridge

The Garden Bridge will purportedly add to the urban forest of London by providing a new green space above the River Thames, boosting the number of trees by 270 on a 360 m stretch of artificial underground floating above water. In a promotional video

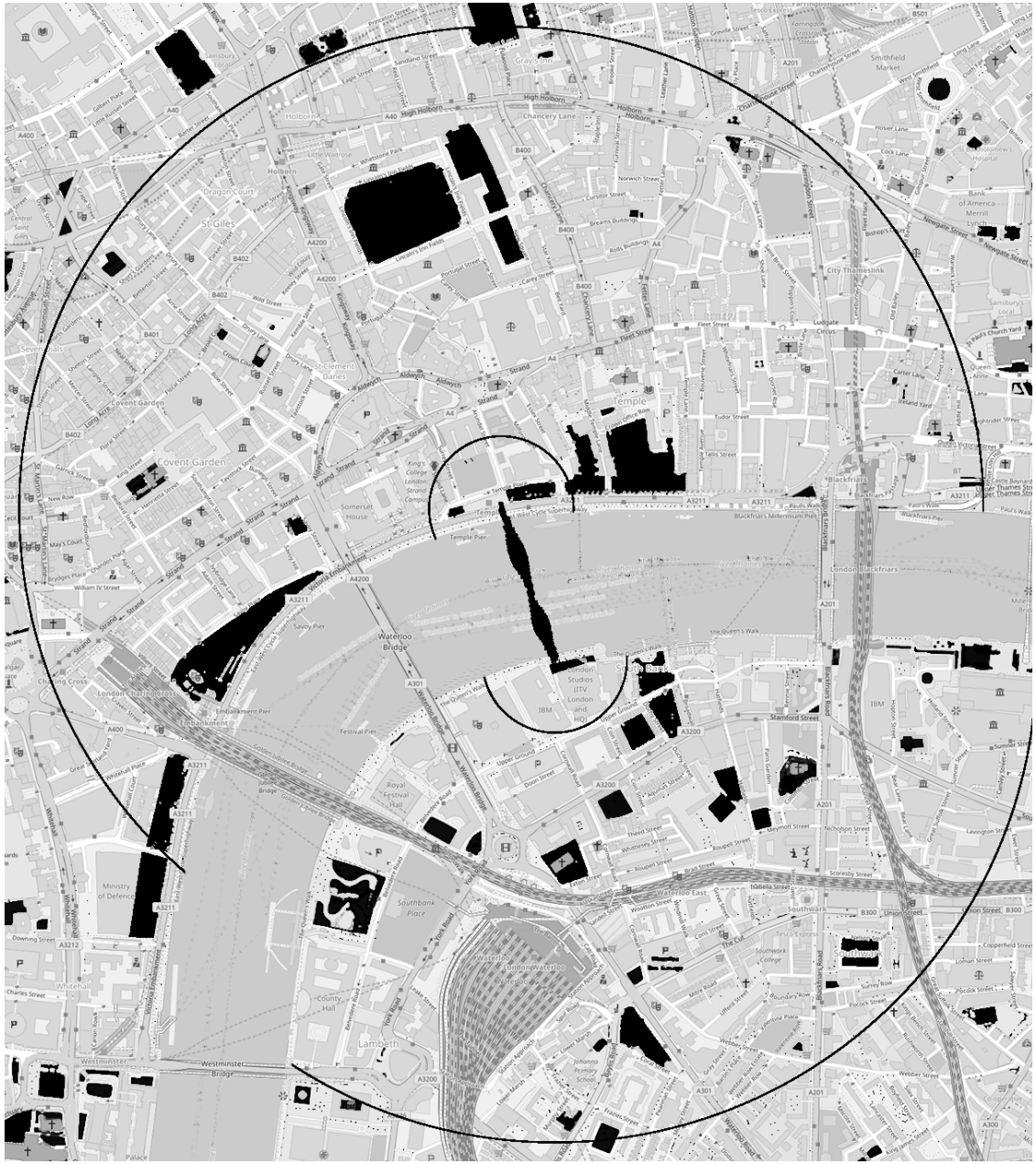

Figure: 20. Greenspaces close to the Garden Bridge (in black)

narrated by Joanna Lumley the Bridge has been presented as an opportunity to:

> walk through woodlands over one of the greatest rivers in the world [...] for commuters, it will provide a quick and beautiful route [...] for dreamers a quiet place to linger amongst trees and grasses to look at the views, for tourists an unforgettable landmark [...] it'll be a place to set hearts racing and to calm troubled minds [...] changing with the season, enchanting everyone who uses it. It's like a tiara on the head of our fabulous city known and loved throughout the world (London Communications Agency 2014, 00:47, 00:59, 01:05, 01:35, 01:43, 01:48).

In addition to this claim the bridge's chief designer Thomas Heatherwick suggested that the bridge would encourage 'guerrilla gardening', a statement Rowan Moore describes as a 'quite offensive appropriation of a concept opposite in spirit of the bridge' (Moore 2016, 381). London's leading guerrilla gardener Richard Reynolds agrees with this sentiment, believing that there is no justification for Transport for London's involvement in the scheme:

> If TfL has money to spend on green infrastructure, they should be investing it in increasing the diversity of our city's flora and fauna by creating new pavement gardens, green roofs and bucolic station platforms – not by creating a garden in the air over water(Richardson 2014).

The structure of the bridge was designed by Thomas Heatherwick while the garden was designed

by Dan Pearson with support from the Royal Horticultural Society in form of horticultural director Jim Gardiner (who stepped down as a trustee for the GBT in November 2016) helping with the planting (Appleby 2016). The Garden Bridge projects an image of being the perfect environment to experience nature in all its beauty. Its critics cite the tremendous costs of £185 million as a main reason for opposition. With this amount of money, 18 new green spaces at £100,000 each could be built in every borough, equating more than 600 new community gardens across London.

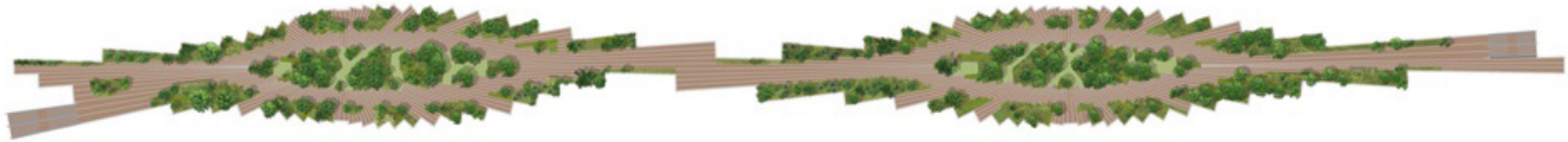

Figure: 21. Graphic Plan of the Garden Bridge

However, while these small scale public gardens could possibly improve the quality of life for many Londoners, it is doubtful whether they would be able to create the same kind of revenue as the Garden Bridge allegedly will.

The Garden Bridge will supposedly attract 7.1 million visitors a year, with an estimated 9,000 commuters on weekdays. The rest will be tourists and other visitors (Garden Bridge Trust 2016a). London Mayor Sadiq Khan requested that the GBT has to guarantee that local school children would be involved in planting and maintenance (BBC 2016).

Figure: 22. Greenspaces close to the Queen Elizabeth Olympic Park (in black)

According to its project head James Corner the park is designed to serve as backdrop for events and circuses, markets and festivals, a place for play and performance where a sequence of outdoor rooms are 'connected by an arced promenade of trees' (Wainwright 2014a). The design of the QEOP incorporates wildflower meadows that aim to contribute to a dialogue between notions of culture and nature (Hitchmough and Dunnet 2013, 74–77).

Green elements serve as a connection between the purpose-built venues. Nature acts as a transitional device that pulls the different styles and functions together. The park is divided into a southern part dominated by the Stadium (which stands apart from the scene like a castle surrounded by a moat) and a pastoral style northern portion. These sections provide different experiences for visitors. The southern section is a heavily programmed plaza-like area with regular events of all scales and sizes 'each one run to achieve ambitious environmental targets' (Greater London Authority 2012b, 11). The North Park by contrast is a more traditional park, with a central lawn, playgrounds, and most importantly the wetlands along the River Lea. In all, QEOP has about 6.5 km of waterways, 45 ha of biodiverse parkland and over 100 ha of open land (Greater London Authority 2012a, 36). QEOP is part of a larger park system, namely the Lee Valley Regional Park, a 40 km long linear green space spanning from Ware in Hertfordshire to the north bank of the Thames with the purpose of providing an accessible visitor attraction serving the whole region, a regional 'green lung' (Lee Valley Regional Park Authority 2016).

Figure: 23. Aquatics Center with construction work in the background

Guided tours are offered for those who want to learn about the transformation of the former Olympic venues, the park and landscape, and the stadium (Queen Elizabeth Olympic Park. 2016a).

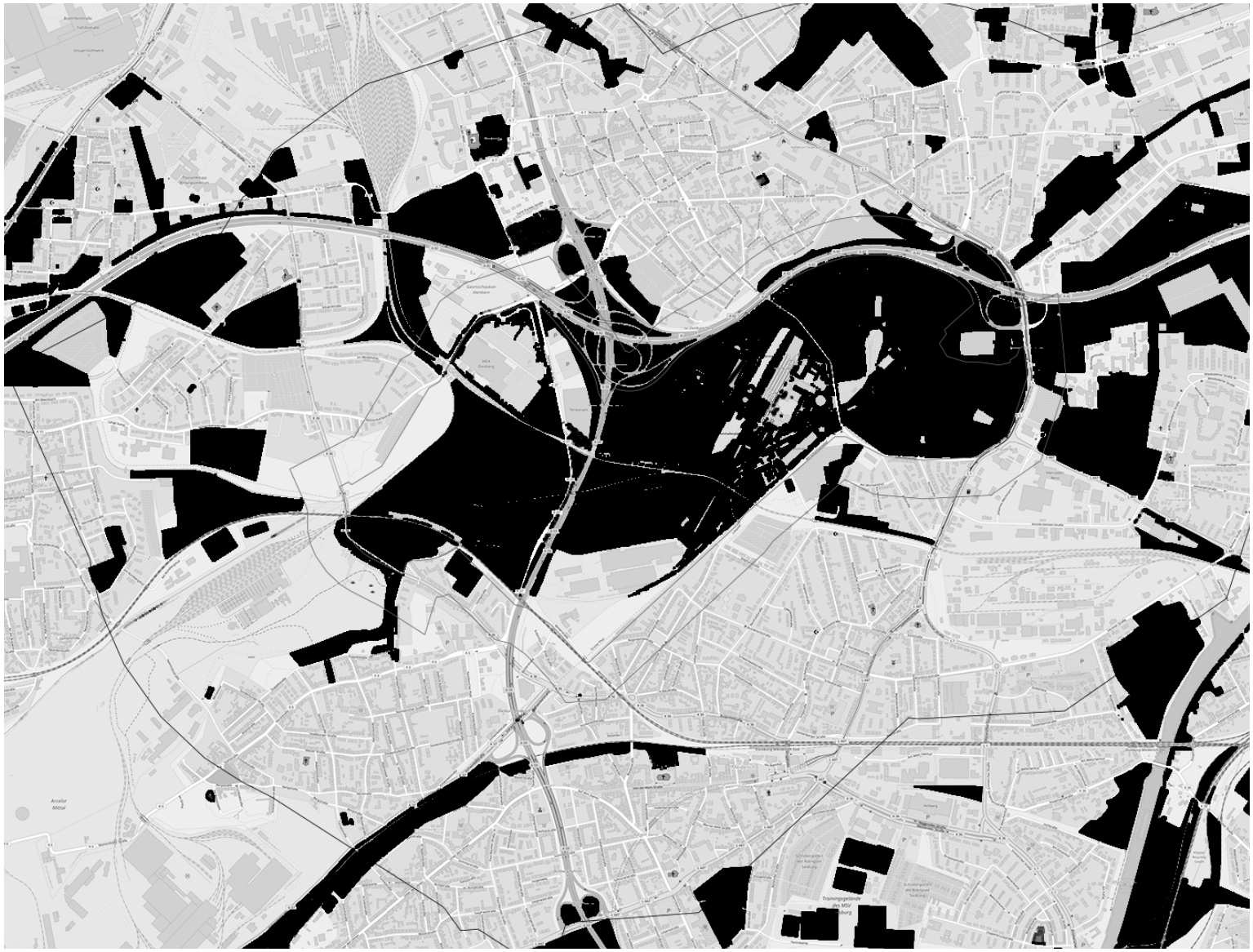

Figure: 24. Greenspaces close to the Landschaftspark Duisburg Nord (in black)

The five main design objectives were to preserve the leftover landscape, to link isolated and separate areas within the agglomeration, to re-zone disconnected plots as parkland, to agree locally and regionally on projects with a long term perspective, and to maintain and manage new open spaces within a regional park association (Schwarze-Rodrian 1999, 57). The Emscher Park and LaPaDu in particular were not just a redevelopment of former industrial areas but a reinvention of the region after the loss of heavy industry in the late 20th century. Existing infrastructure was retained and made publicly accessible and – most importantly – safe for use. Here and at the High Line nature is used to 'heal' the former industrial site, but where the New York landmark is slick and clean, LaPaDu is dirty and rough.

Figure: 25. LaPaDu overgrown industrial site with elevated walkways

LaPaDu's design is a direct response to what was found at the site and the moderate approach chosen by Peter Latz + Partner at one point was described as 'not doing anything' (Diedrich 1999, 69). The buildings and structures that had decayed and were then taken over by pioneering plants were largely left as they were found, for the design approach was to 'turn as little as possible inside out and leave as much as possible' – the objective was to explore the value of nature, and to see whether the former industrial site with its chimneys, railway tracks, bridges, buildings, sheds, blast furnaces, dumps and so on could be used as a basis for the park (Weilacher 1996, 121–4).

Guided tours aim to show the amalgamation of nature and industrial culture. Former ironworkers inform visitors of working conditions of days past, the monument's history, and its redevelopment as a park (Landschaftspark Duisburg Nord 2016b).

LaPaDu has been described as 'troubling celebration of the industrial sublime' by George Hargreaves (Hargreaves 2007, 165). Today 'sublime' simply means impressive or beautiful. In the 18th century however, when the concept of the sublime was invented, it was described as an experience of impending threat, doom and danger, a form of agreeable horror, as the juxtaposition with the energetic effects of nature would trigger the feeling of greatness and nobility (Schama 1995, 449). In regards to the Landschaftspark the older definition of the word captures the experience better than the new one ever could. The post apocalyptic scenery presented in Duisburg depends on nature

and culture complementing each other. Vegetation taking over the former industrial sites is central to the atmosphere, the contrast accentuates the beauty and while the buildings continue to decay, the plants continue to grow. A survey conducted in June 2001 found that around 1,800 different species are present at the park (Winkels and Zieling 2010, 52). The spacious terrain includes meadows, water areas, and carefully designed gardens within the abandoned industrial structures, with the manicured and the wild harmonising, complimenting, and contrasting each other.

04.05 – Summary

Both the High Line and Garden Bridge inhabit dense urban spaces and their impact largely relies on the contrast of nature with the surrounding city. There are small to medium sized green spaces in the vicinity of both parks. Landschaftspark Duisburg Nord and Queen Elizabeth Olympic Park on the other hand are much larger in scale than HL and the Garden Bridge. There are many small, medium and large scale parks and green spaces in the proximity of QEOP as well as LaPaDu.

Meliora sunt ea quae natura quam illa quae arte perfecta sunt.
(Things perfected by nature are better than those finished by art.)
Cicero II, 87

05 – REAL ESTATE

The third social force after improved living conditions and close contact with the natural environment is, according to J.B. Jackson, an improvement of the value of real estate in the areas adjacent to the new green space (Jackson 1994, 114). This insight is not new. In 1885, Olmsted wrote about the effect Central Park had on bordering land development and its role in increased local prosperity (Tate 2015, 1). More recently, John Crompton has examined the role of parks on contiguous real estate and estimates a 20 % increase in property values a reasonable and rather conservative starting point guideline, an assessment that hinges on a variety of factors –such as the size of the park, its shape, the main use (active or passive), overall attractiveness, and its level of maintenance (Crompton 2000, 3).

Parks traditionally have free access and therefore little to no direct revenue can be made from them – their impact on society can in general not be directly measured in monetary terms. However, the economic value of urban open spaces and parks can be measured in two ways: surveying the value of property and land in the immediate catchment zone and the economic value of visitors, businesses and retirees coming into the area (Crompton 2000, i). It is crucial that green spaces are not just status symbols for a small elite who can afford them but that they are a reachable and attainable convenience for everybody (Bernatzky 1971, 52).

If cities really are, as Jane Jacobs suggests, immense laboratories of failure, success, trial and error, then for the sake of this thesis, parks and their surrounding

areas are gigantic Petri dishes. This section takes a look at whether there has been an increase in real estate development since the inception of the green spaces examined here and if and how these parks have shaped their abutting cityscapes.

To show the changes in the built environment of the respective parks and their immediate surroundings (up to 1000 m from the outer boundary), recent Google Earth satellite images were compared with images from before construction started. Difficulties in determining whether things had changed arose from difference in shading and reflections, cloudiness and illumination in general, and low resolution. The oldest available image for LaPaDu was from 2003. The park had already existed for 9 years at that time.

In order to enable comparability the sums of money were converted from their original currency to Euro and then adjusted for inflation. The exchange rates used are the mean over the observed period, since currency fluctuations distort the result as the projects examined here are very local and the vacillation effects are therefor secondary. The Sourcecode are Eurostat, Europa Central Bank, and Federal Reserve Bank. The converted figures are presented in the footnores and more comprehensibly at a table at the end of the chapter.

	High Line $	Garden Bridge £	Queen Elizabeth Olympic Park £	Landschaftspark Duisburg Nord €
exchange rate to €	1:1.30	1:1.25	1:1.21.	1:1

Figure: 26. Exchange rates to Euro

05.01 – High Line

Following the inception of the High Line, numerous new developments along the park have come into existence. After years of preparation, construction works began in April 2006 (Friends of the High Line 2016a). Since then, buildings on every single block along the route have either been renovated or completely new structures have been erected. Among them are the Javits Center north of the park which underwent a $465 million[1] renovation (Wimberly 2013). The park spans three Manhattan districts: West Chelsea, Hell's Kitchen and the Meatpacking District, an area that was known to have very little open space even by New York City standards (Ulam 2004, 67). By the late 1990s the area had long moved on from food production and had transformed into a fringe area sporting art galleries, nightclubs, and prostitution, a development that then Mayor Rudy Giuliani sought to halt by redeveloping the districts (Tate 2015, 43). This was achieved by rezoning the area as the 'West Chelsea Special District', reserved for residential and mixed-use commercial development, encouraging arts-related uses, serving as a connection from the lower scale Chelsea Historic District to the Hudson Yards area in the North, and protecting the City's tax revenues resulting from the desirable use of land (New York City 2005, 3). The Friends of the High Line, a private non-profit organization responsible for the structure's maintenance and operation estimated that the new landmark would increase local real estate values and in the process boost New York's tax revenue by about $250 million[2] over 20 years (Rainey 2014, 2).

A goal of the transformation was to retain the art galleries while simultaneously driving out shadier aspects of the neighborhoods. Residential development was precluded in the middle of the blocks and building restrictions concerning height were implemented in order to protect views and sunlight access (Tate 2015, 43). The High Line itself is owned by the City of New York and operated by the Parks and Recreation department and the Friends of the High Line forming a public-private partnership.

The completion of the first two (out of three) phases cost $153 million[3], with $112.2 million[4] paid by the City, $20.7 million[5] by the Federal Government, $700,000[6] by the State of New York, and $44 million[7] were raised by the Friends of the High Line (New York City 2011). The third section cost an additional $90 million[8], the city pledging $10 million[9] in capital funding (New York City 2012). Operating costs (administration and maintenance) are about $7 million[10] per year with 10 % being paid by the City and 90 % by the Friends of the High Line (Tate 2015, 45). The operating costs are financed via fundraising events, membership fees, sponsorships, marketing, and events on the High Line (Friends of the High Line 2009, 1–2). The park is 50 times more expensive to run than the average New

1 €367 million

2 €194 million

3 €125 million

4 €91.7 million

5 €16.9 million

6 €0.6 million

7 €37.7 million

8 €72 million

9 €8 milion

10 €5.4 million

Figure: 27. Google Earth Image of High Line 2004

Figure: 28. Google Earth Image of High Line 2016

Figure: 29. High Line real estate development satellite image comparison 2004/2016

Shown here are the changes in the built environment within a 1,000m distance from the High Line from 2004–2016.

Dark Grey: demolished structures

Black: newly built/renovated structures

The construction boom following the High Line's inception can be readily observed here. Most changes in the built environment within the studied area have occured in direct vicinity of and alongside the park. To the north the newly emerging Hudson Yards district is highly visible, to the north east – where among other thing Madison Square Garden is located – redevelopment is also ongoing. HOwever, this is likely not the result of the High Line but can be attributed to other factors, since areas that are much closer to the park further to the south have not seen the same level of redevelopment. It can be concluded that while the iconic structure is a magnet for redevelopers, this is a phenomenon contained to the direct neighbourhood of the High Line.

York city park per acre (Lepeska 2013).However, these considerable costs for the City of New York have paid off: by 2011 the park has generated more than $2 billion[11] in new development (Foderaro 2011). Tax revenues alone are estimated at about $900 million[12] over a 20 year period (Rainey 2014, 2). Nevertheless, there is a downside to these figures: the main beneficiaries of the High Line's success are property developers – the High Line itself depends on charitable donations to remain operational (Banerji 2012).

Before the High Line was created 4,000 housing units existed in West Chelsea. Now, after the development of new residential buildings, constructed in course of the re-development of the High Line, this number has risen to 6,000 (Quintina 2016). Compton noted that people are frequently willing to pay larger amounts of money for homes located near parks and open spaces, an effect readily observable at the High Line (Crompton 2000, 9). Compared to Downtown Manhattan, the prices for these units are 75 % higher at Section 1 and 7 % higher at Section 2 of the High Line, however this effect has a very short reach – beginning at 9th Avenue the prices are lower than Downtown Manhattan average (Quintina 2016).

The High Line was not the sole catalyst for change in Chelsea: by the mid 1980s (along with the railway) the 'seedy' elements like sex clubs had vanished and in the following years artists, galleries, trendy restaurants, bohemian clientele, and other harbingers of gentrification had begun to move in (Quintina 2016). However, the High Line served as a turbo for gentrification, speeding up the process and multiplying it to hitherto unknown proportions (Quintina 2016). Among the built projects are structures designed by renowned architects Zaha Hadid, Jean Nouvel, Frank Gehry, and Shigeru Ban (Davidson 2009, 134–135). At the southern end the new Whitney Museum of American Art designed by Renzo Piano was opened in 2015 (Whitney Museum of American Art 2016). North of the former Penn Station rail yard (which is encircled by the 3rd section of the park) a 11.3 ha development with a $25 billion[13] price tag is taking shape in form of the Hudson Yards (Sorvino 2016). Here too star architects and designers will leave their mark on the Manhattan skyline with projects by Thomas Heatherwick, Bjarke Ingels, Diller Scofidio + Renfro in collaboration with Rockwell Group, and Norman Foster being realized (Frearson 2014). Critics have noted that the park is a celebrity project which provides a sanitized melancholy relic as the source of gentrification and overcrowding (Tate 2015, 34–36).

And indeed these developments are a double edged sword: a big part of the High Line's appeal is the out-of-time-factor, the endeavor to preserve an era of the seemingly lost industrial New York. This charm of the old is vanishing with each new power building rising alongside the structure. In an ironic twist, The High Line, meant to conserve a part of historical Chelsea and the Meatpacking District, is the main driving force behind its inexorable change.

11 €1,635 million

12 €699 million

13 €19,939 million

05.02 – Garden Bridge

Construction on this controversial object has not yet started but within three years its surmised costs have already risen from £60 million[1] to be paid exclusively by private investors (Frearson 2013) to £185 million[2] partially funded by the public (Garden Bridge Trust 2016b). The main impacts estimated by a 2014 business plan are an improved journey quality, business impacts at £13.5 million[3] p.a., rising residential property values at a £84.1 million[4] one-off value increase (assuming a 5 % rise), added tourism revenue of £2.5 million[5] p.a., an opportunity for 'showcasing Britain' (valued at £6.1 million[6] per year), and the creation of 250 construction and 20 operation full time jobs (Greater London Authority 2014c, 18).

Similar to the High Line the cost for the bridge will be covered by a public private partnership. The Garden Bridge Trust has secured £30 million[7] in funding from TfL and HM Treasury each, partially given as a loan (of which £37.7 million[8] were already spent as of May 2016), the remaining £125 million[9] will come from private funds (BBC 2016). The loans by TfL (£20 million[10]) and the government – in form of £22 million[11] in VAT to the treasury – need only be repaid if the bridge is finished, ultimately leaving £18 million[12] cost to the taxpayer (Greater London Authority 2016b). As of August 2016, the Garden Bridge Trust has managed to secure £129.4 million[13] via pledges, donations, events, and other means, leaving a £55,6 million[14] funding gap (Garden Bridge Trust 2016c).

The annual maintenance costs have been calculated at around £3 million[15] which will be covered by varying sources of income like fundraising events, commercial event hire, corporate membership, public donations, individual patrons, merchandise and more (Greater London Authority 2016f, 10–11). If the Garden Bridge Trust fails to raise the money needed to operate the bridge, the GLA has underwritten a guarantee to support the ongoing operation of the bridge (Greater London Authority 2015a, 3).

New high end residential developments such as Temple House, Temple Place, Arundel Great Court, Aldwych Quarter, and 190 Strand are in the immediate neighborhood of the proposed Garden Bridge (The Northbank 2015, 52–67). Marketing material for these proposed objects claim that 'the bridge will breathe new life into an area of the north bank that is currently undergoing an impressive renaissance' (Temple House Arundel Street London WC2 n.d. 13). Temple

1 €75.6 million
2 €230.6 million
3 €17.7 million
4 €110.1 million
5 €3.3 million
6 €8.0 million
7 €37.4 million
8 €46.1 million
9 €155.8 million
10 €24.9 million
11 €27.4 million
12 €22.4 million
13 €160.8 million
14 €69.3 million
15 €3.7 million

Figure: 30. Google Earth Image of Garden Bridge 2013

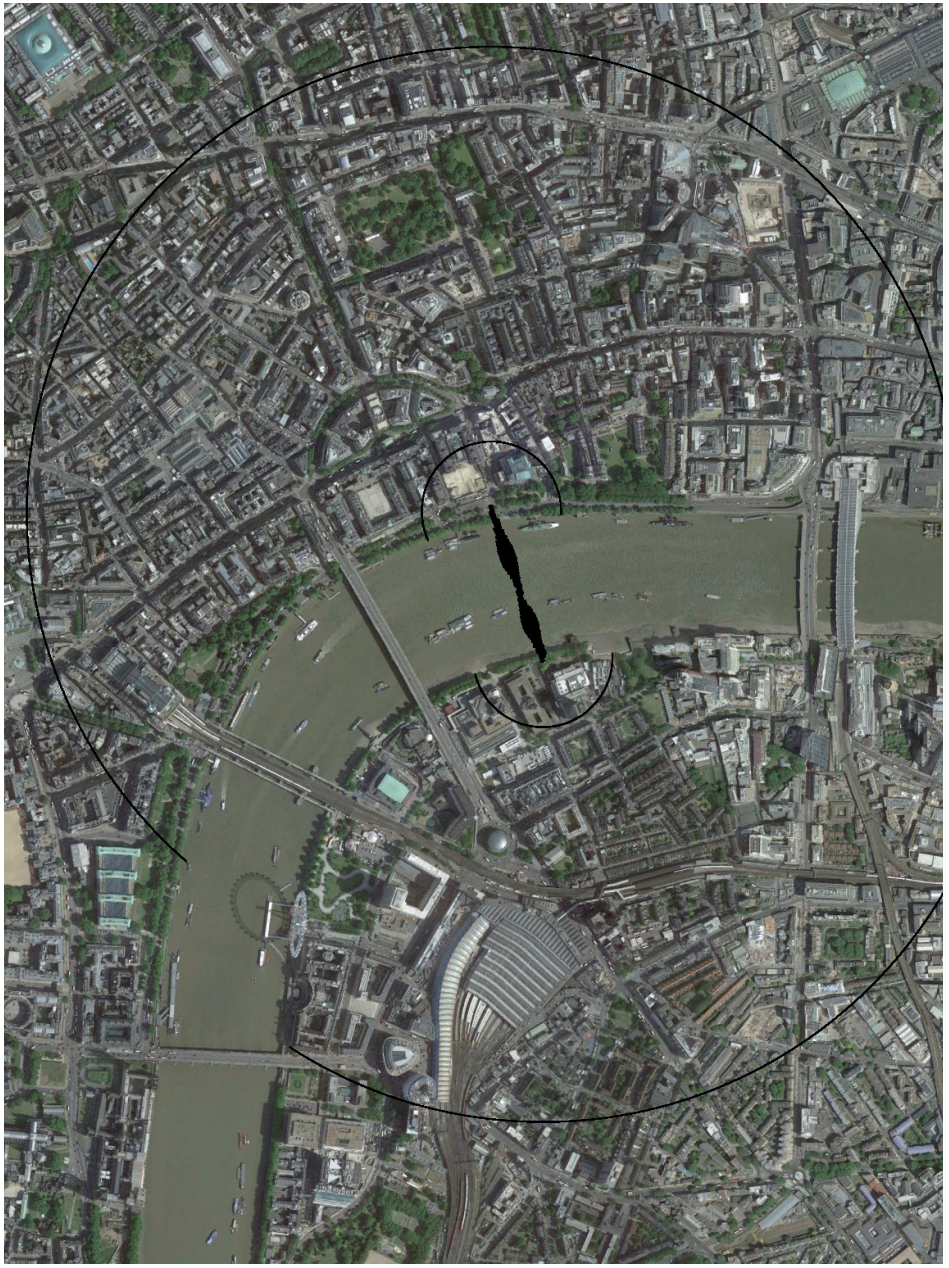

Figure: 31. Google Earth Image of Garden Bridge 2016

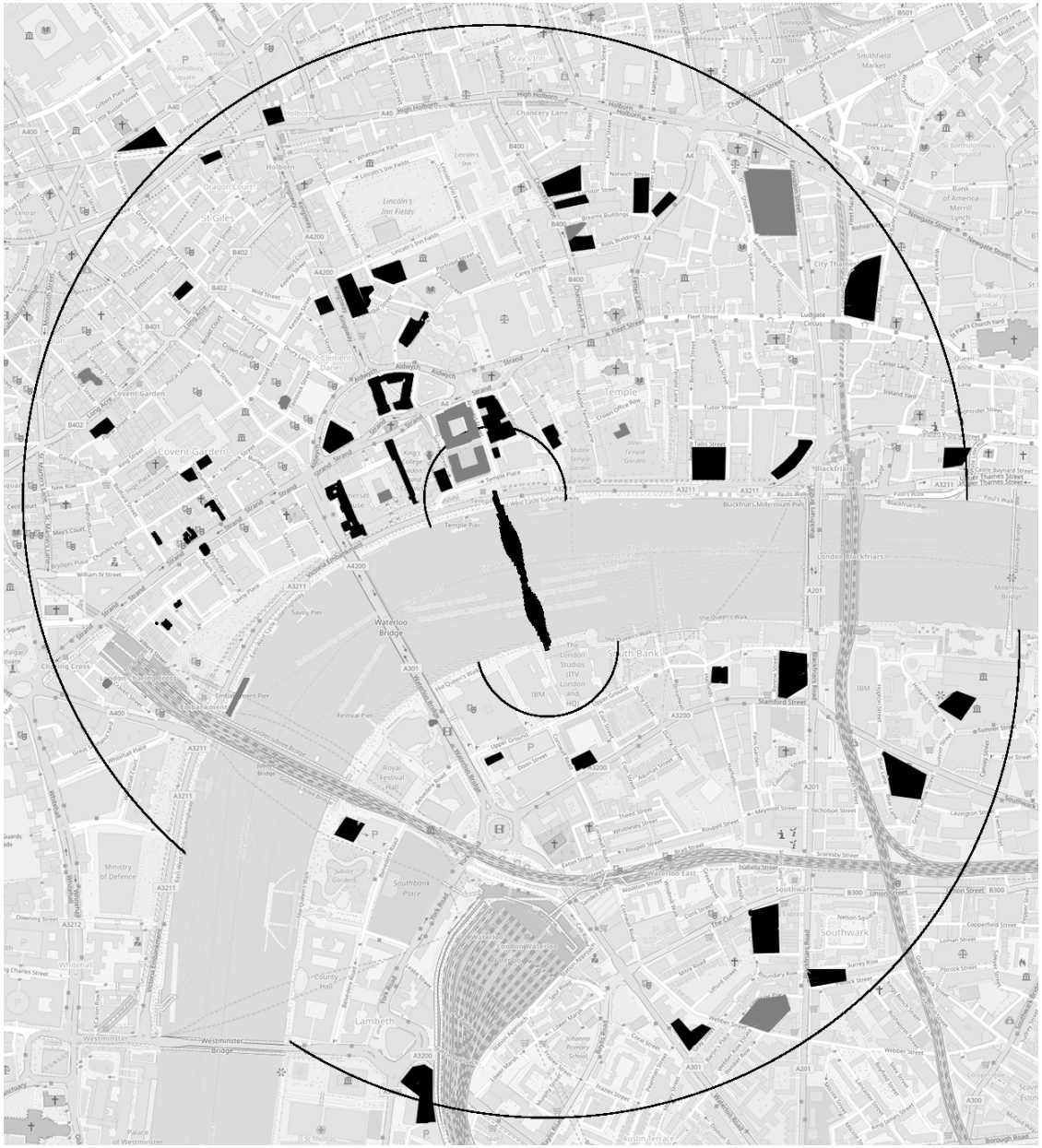

Figure: 32. Garden Bridge real estate development satellite image comparison 2013/2016

Shown here are the changes in the built environment within a 1,000m distance from the Garden Bridge from 2013–2016.

Dark Grey: demolished structures

Black: newly built/renovated structures

On the north bank new developments are built in close proximity to the landing of the future bridge. On the south bank compartievly little construction has taken place. Overall it is problematic to ascribe the redevelopment in the vicinity of the future bridge to the Garden Bridge, since construction on the constriversial project has not yet started.

Gardens, King's College, Somerset House, and other substantial landmarks also abut the planned icon. The Northbank Business Improvement Disctrict reports that about £1 billion[16] are being privately invested in the area by landowners seeking to intensify use (Greater London Authority 2014c, 36).

Business Improvement Districts are a way for local businesses to cooperate on improving the area within their boundary (Greater London Authority 2016e). The Northbank BID was founded in 2013 (The Northbank 2015, 52–67). It presents the Garden Bridge as central to the success of the new developments on the north bank of the Thames, whereas the South Bank BID makes almost no mention of the Garden Bridge in their informational material. At this side of the Thames the National Theatre, ITV Studios, and IBM Client Centre border on the landing site for the bridge. In February 2017 ITV announced that they would build new headquarters on the site of the current South Bank studios (Harris 2017). About a kilometer to the east the Tate Modern has already entailed new development in the past 20 years: the Millennium Bridge, Neo Bankside residential and more. Transport for London estimates that on the South Bank planned developments within a 500 m radius of the Garden Bridge will amount to a £1.33 billion[17] investment, providing about 1,400 new residential units, 170,000 m2 new commercial, office, and other floor space, and 1,000 hotel beds (Greater London Authority 2014c, 82).

Since construction is yet to start, attributing the new developments in the vicinity of Temple Station and the National Theatre to the Garden Bridge would be a fallacy. In this case, correlation does not necessarily imply causation. While some propositions use the bridge as a selling point, they are partially already being realised and therefore do not directly hinge on the completion of the Garden Bridge scheme. Whether it would actually bring further development to either side of the river is yet to be determined.

16 €1,309 million

17 €1,741 million

05.03 – Queen Elizabeth Olympic Park

In 2003 London then Mayor Ken Livingston and then Prime Minister Tony Blair sought to redevelop the Lower Lea Valley as part of an effort to regenerate economically weaker regions of London (Tate 2015, 307). To accomplish this goal, the GLA submitted a bid for the Olympic Games 2012 and presented a plan that would not just focus on 4 weeks of operation but instead consider the post-games use of the structures and the site, serving as a catalyst for the wider region (Tate 2015, 153). This legacy focused approach won over the IOC and in 2005 preparation works started on site. While some venues were planned to be adapted for further use by the public (Aquatics centre, VeloPark, Copper Box, etc.), others were temporary structures to be dismantled after the games (Basketball Arena, Water Polo Arena, Riverbank Arena, etc.). The master plan for the post-Olympic games transformation was developed by James Corner Field Operations, the same landscape and urban design firm acting as project leader for the High Line.

A 2013 factsheet by the International Olympic Committee spoke overwhelmingly positively about the games, hailing the legacy planning as a positive role model for future host cities (International Olympic Committee 2013,1). The costs for this large scale metropolitan development are difficult to assess. The original budget for the 2012 Games was stipulated at £2.4 billion[1], a number soon amended to £9.29 billion[2] and later revealed as £8.77 billion[3] (Moore 2016, 373). This number includes the costs for the buildings and structures, the redevelopment of the site and the surrounding areas, and the events themselves. After the Games the location was closed for the public until April 2014 when it reopened as a public park (Wainwright 2014b).

The Games were hailed as an overall success for Great Britain (Moore 2016, 373). About £6 billion[4] were spent on the transformation of Lea Valley and £292 million[5] were set aside for converting the sports venues, removing temporary arenas, building a new road network, and landscaping which will double the amount of parkland (Beard 2013). Games-related construction activity is a boost for the British economy, with an estimated £11.9 billion[6] spent between 2005 and 2017, of which 70 % happened prior to the Games, the rest is expected legacy impact (Oxford Economics 2012, 2). Games-related construction projects include site preparations, venues, transportation, other park wide projects, village and broadcasting centre, Westfield shopping mall, Arcelor Mittal Orbit, legacy construction, and Stratford station changes for Crossrail; 12,300 people were employed at the peak of construction work in April 2011 (Oxford Economics 2012, 11).

Improving connection of the site to London's transportation network was key for proper accessibility during the Olympic Games and afterwards. Following the extension of the Jubilee Line in 1999,

1 €2,966 million

2 €11,778 million

3 €10,840 million

4 €7,416 million

5 €380 million

6 €15,086 million

Figure: 33. Google Earth Image of Queen Elizabeth Olympic Park 2003

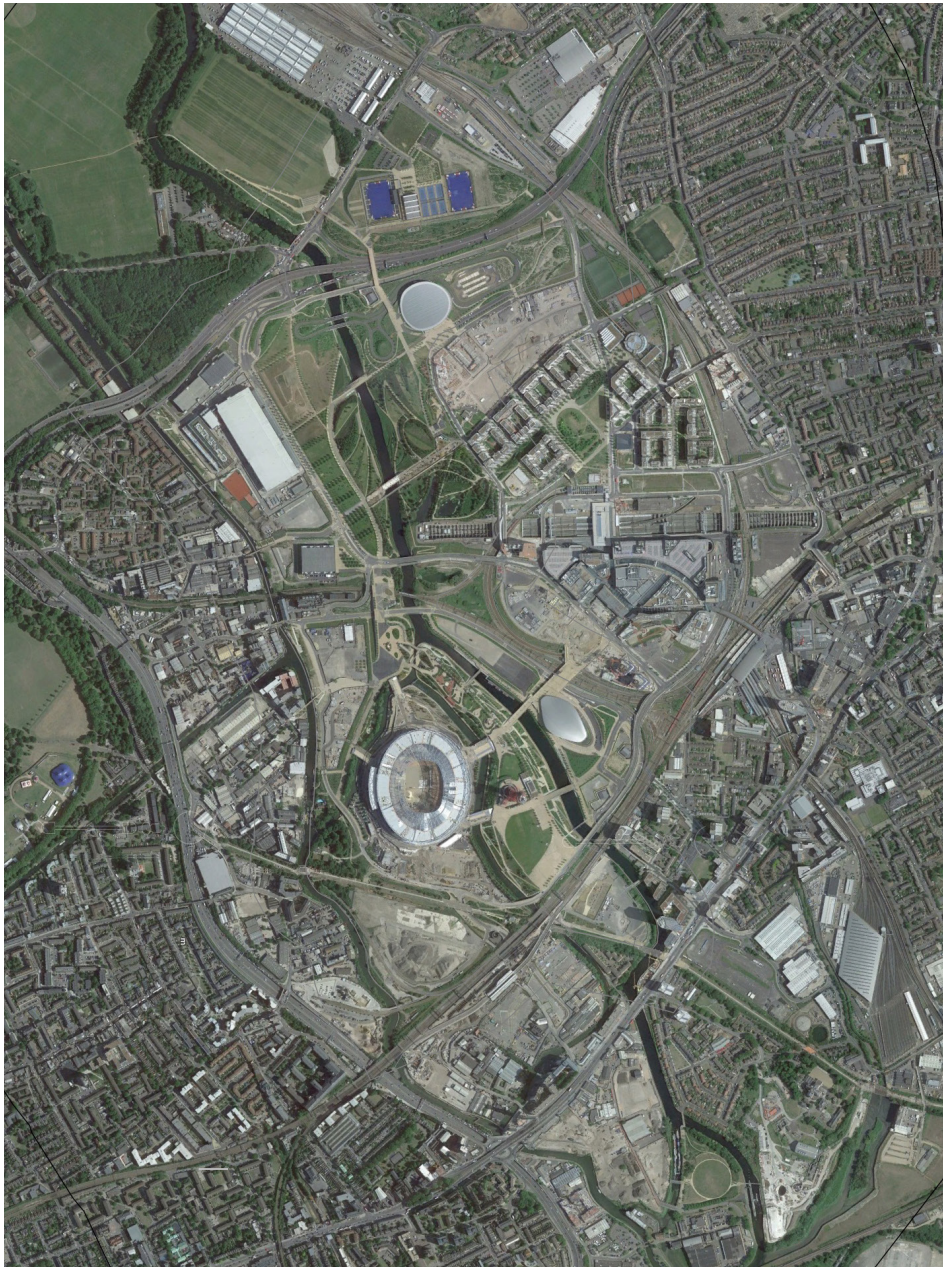

Figure: 34. Google Earth Image of Queen Elizabeth Olympic Park 2015

Figure: 35. QEOP real estate development satellite image comparison 2003/2015

Shown here are the changes in the built environment within a 1,000m distance from the Queen Elizabeth Olympic Park from 2003–2016.

Dark Grey: demolished structures

Black: newly built/renovated structures

Most construction work has taken place within the boundaries or in very close proximity to QEOP. Relatively little redevelopment has as yet occured in areas that are more remote to the park.

the high-speed Channel Tunnel Rail Link at Stratford in 2009 provided another vast improvement (Tate 2015, 157). Westfield Shopping Centre (which serves as an access point from the Underground to the park) opened in 2011, housing 70 restaurants, more than 300 shops, three hotels, a casino, and a 14-screen cinema (BBC 2011). A new quarter housing five neighborhoods with up to 11,000 new flats and townhouses (a third of which will be affordable homes), a new educational campus for 1,800 students aged 3–19 plus learning facilities for adults, and the Green Enterprise District projected to serve as a sustainable technology business and research hub are among the legacy projects forming the core of the redevelopment (UK Department for Culture, Media & Sport 2012, 68). All in all it is estimated that about £12.5 billion[7] have been invested in the area (Garrat 2014). Whether the Olympic Games made these projects possible, merely accelerated their inception, or had no impact on their conception at all is nearly impossible to determine (Oxford Economics 2012, 12). However, the area would have been far less attractive for private investors in the absence of a large-scale urban renewal plan which formed the core of the London 2012 bid (Oxford Economics 2012, 12).

After the Paralympic Games, the Olympic Park Legacy Company was transformed into the London Legacy Development Corporation (LLDC) under the sole supervision of the Mayor of London (ending the involvement of the UK government). The LLDC is a public non-profit organization responsible for planning, development, management, and operation of the park and its surrounding region, covering an area of about 480 ha, a fifth of which is as of yet not built-up (Selbach and Zehner, 2016, 141–142). Operating costs for the park post-Games were estimated at £3.24 million[8] (excluding venue maintenance), covering administration, overall park maintenance, community liaising, events and activities, and contracted maintenance costs (UK Department for Culture, Media & Sport 2010, 132). Revenues were expected to arise from food and beverage sale, park shop, special events (ticketed events and sponsorships), fundraising, long-term endowments, government funding and leasing venues (UK Department for Culture, Media & Sport 2010, 133).

From the east to the south side railway lines separate the terrain from its surroundings. From the southwest to the north the park and its vicinity are confined by the A1, a major three line road. This fences the site in, but a multitude of fly-overs and underpasses connect the park to the city. This is also true for the roads and railway lines that intersect the premises. The park itself is divided into two parts – the South Plaza focusing on sports, urban entertainment, visitor attractions, and events blending into a less cramped northern part centered around landscape parklands, waterways, hosting cultural events, and outdoor and indoor sports facilities (UK Department for Culture, Media & Sport 2012, 77).

7 €15,227 million

8 €4.4 million

05.04 – Landschaftspark Duisburg Nord

As part of the trans-regional Emscher Bauaustellung, the focus of LaPaDu was not to just reinvigorate a certain part of town but to be part of a widespread program to identify new perspectives for the future of this socially and economically weakened region, where ecological renewal was to precede lasting economic revival (Zlonicky 1999 44). As such, the site was one of many redevelopment projects in the metropolitan area Rhine-Ruhr. Emscher landscape park is an archipelago of green spaces which makes it nearly impossible to pinpoint the effect one single park has on its surroundings without considering the overall effect of the system. The economy had been subjected to a far-reaching structural change from the industrial towards the service sector and LaPaDu is an embodiment of this progression: the former industrial plant is now home to sports, recreational, and cultural facilities. This allows for a wide range of activities, therefore attracting as many people as possible (Tandy 1972, 101).

The aim of the design by Latz + Partner was to emphasize the quality of the landscape and watercourses and to preserve the industrial monuments as cultural artifacts, creating new forms of work for the people of the region (Tate 2015, 197). The park opened in 1994 while construction was still ongoing (taking place from 1990 to 2001) and cost about DM160 million[1], paid for by a combination of regional and federal government funding programmes as a measure to counteract unemployment (Tate 2015, 204). The park creates about €2.6 million[2] in revenue due to events, usage charges, and leasing the venues (Herberhold 2013). The rest of the running cost is covered by the city of Duisburg (€1 million.), the federal state of North-Rhine Westphalia (€1.4 million) and the Regionalverband Ruhr (€0.4 million) (Klucken 2016).

The A59 Autobahn leads straight though the park and to the north it is bordered by the A42. The park is also transversed and bordered by railway lines to the south. This creates a hard border and as a consequence the park is cut off from its surroundings. Therefor, the proximity principle as suggested by Crompton does not apply to the same extent as with other parks – for residential usage the benefits of closeness to a park are offset by the disadvantages of an adjacent major motor way.

This becomes apparent when looking at the changes in built structure from 2003 to 2015 (earlier satellite images were not available for analysis). To the west of the park a new IKEA store was built. Within a 1,000m radius, the principal changes in built environment concern the demolition and redevelopment of industrial structures, new residential developments and other small scale interventions.

However, since the loss of heavy industry the Ruhr has not fully bounced back. The unemployment rate for Duisburg was 13.1 % in 2015 (Regionalverband Ruhr 2016a, 3). In Germany the overall unemployment rate in 2015 was 6.4 % (Germany Federal Ministry of Labour and Social Affairs 2017). The Ruhr region has seen declining unemployment for ten years, dropping from 13 % in 2005 to 10.5 % in 2015 (Regionalverband

1 €108.5 million

2 €2.6 million

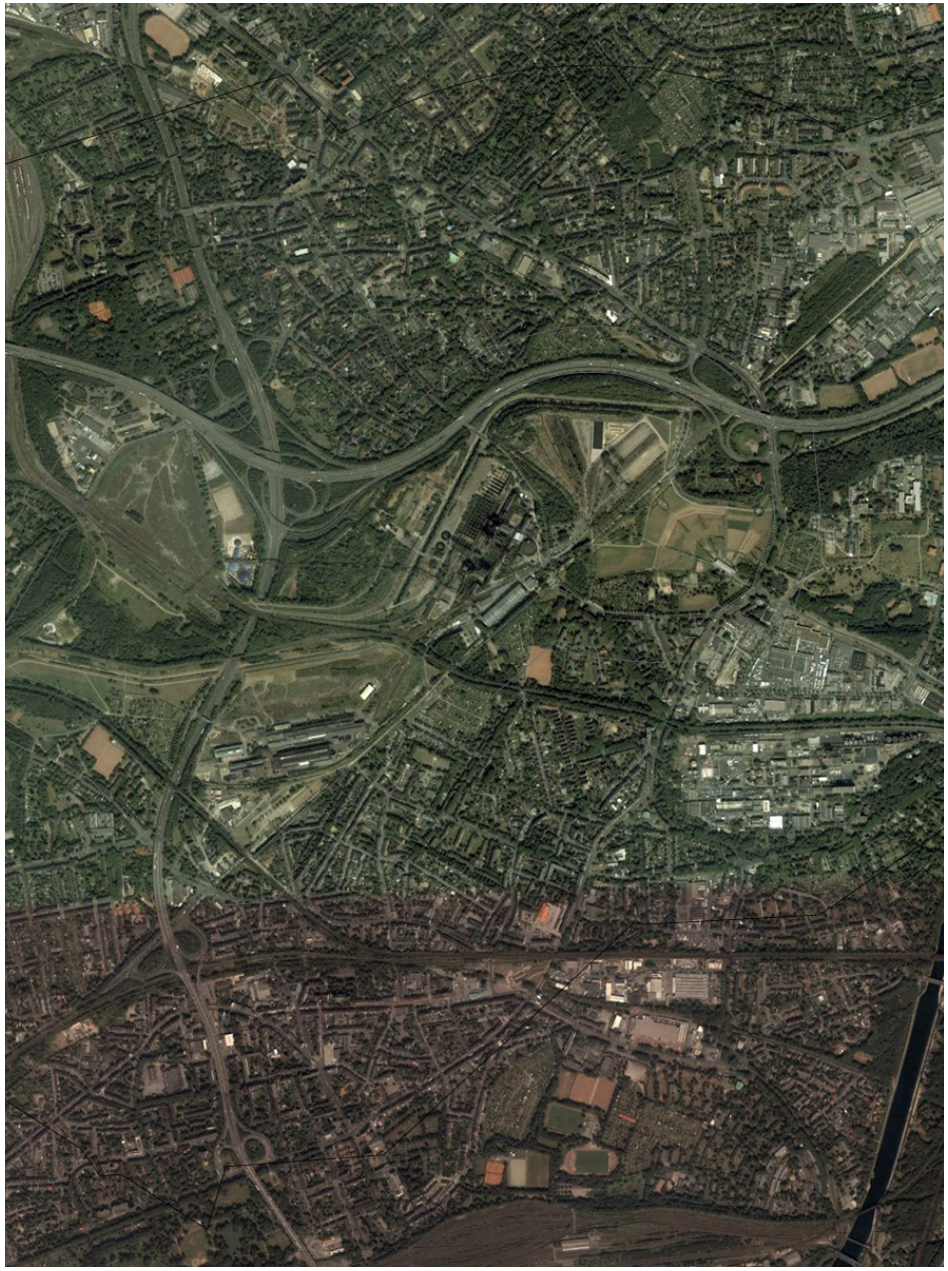

Figure: 36. Google Earth Image of Landschaftspark DUisburg Nord 2003

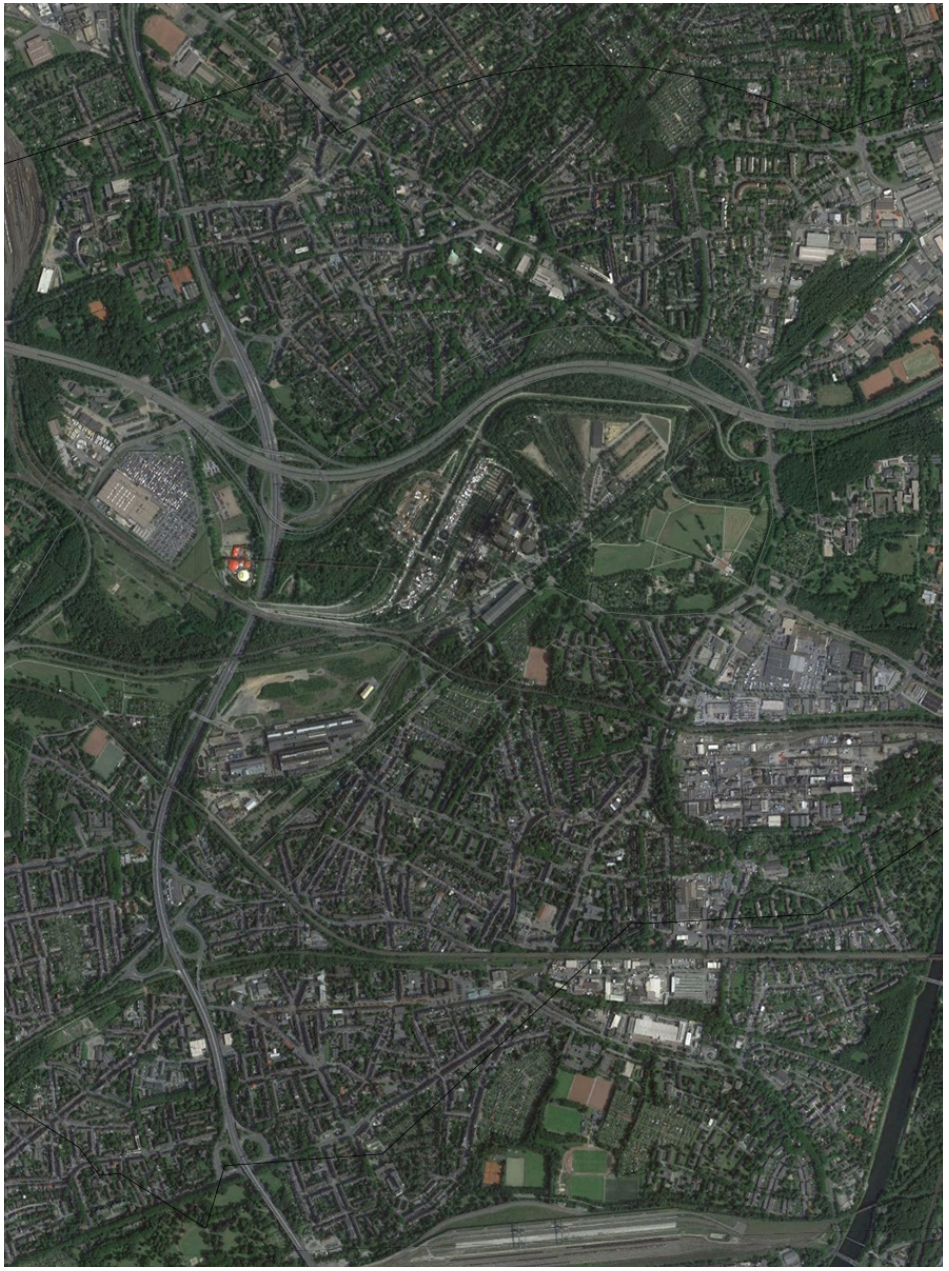

Figure: 37. Google Earth Image of Landschaftspark DUisburg Nord 2015

Figure: 38. LaPaDu real estate development satellite image comparison 2003/2015

Shown here are the changes in the built environment within a 1,000m distance from the Landschaftspark Duisburg Nord from 2003–2016.

Dark Grey: demolished structures

Black: newly built/renovated structures

Compared to the other case studies, little redevelopment has taken place in the proximity of LaPaDu.

Ruhr 2015, 5)[3]. The park itself employs about 300 people (Landschaftspark Duisburg Nord 2016c). The gross domestic product of Duisburg has grown by 25.3 % from 2000 to 2013, compared to a 33.2 % growth for the Regionalverband Ruhr (Regionalverband Ruhr 2016b, 1). A major obstacle for the future development of the Ruhr is related to its poor image (Meinke 2015). The region is still mainly associated with industry and consequential low standard of living. However, projects like LaPaDu help rebrand that image and shape the future of the region by creating architectural, urban, social, and ecological schemes for lasting economical change (Die Internationle Bauaustellung Emscher Park 1989–1999 2016).

3 This is the earliest possible year for unemployment numebrs (counting method was amended since then)

05.05 – Summary

cost in million adjusted to inflation (2016)	High Line*	Garden Bridge**	Queen Elizabeth Olympic Park***	Landschaftspark Duisburg Nord****
construction cost	$243	£185	£290	DM 160
construction cost in	198.8	230.6	378	108.5
construction cost € per ha	70.8	360.3	2.4	0.6
operating cost	$7	£3	£3.24	€5.4
operating cost €	4.8	3.7	4.4	5.4
size	2.8 ha	0.64 ha	156 ha	189 ha
operating cost € per ha	1.7	5.8	0.03	0.03
visitors 2016	8,000,000	7,100,000#	5,100,000##	1,019,391
operating cost € per visitor	0.6	0.5	0.9	5.3
investment	$2,000	£2,300	£12,500	unknown
investment in €	1,635	3,050	15,227	unknown
investment in €< per year	204	–	1,384	–

*$ -> €: the exchange rate was assumed as 1:1,30 (the mean rate for the 2008-2016 period)
** £ -> € exchange rate 1:1,247 {2014-2016}
*** £ -> € exchange rate 1:1,209 {2010-2016}
**** DM -> € exchange rate (2002) 1:1,83 {2002-2016}
# expected number
April 1st 2015 – March 30th 2016, no numbers available for 2016/2017

Figure: 39. Cost comparison

'When I use a word,' Humpty Dumpty said, in rather a scornful tone,
'it means just what I choose it to mean – neither more nor less.'
Through the Looking Glass, Lewis Carroll

06 – THE SMART, GREEN, HEALTHY, AND SUSTAINABLE REVOLUTION FOR EVERYONE

According to the UN 3.5 billion people, i.e. half the planet's population, live in cities today, by 2030 this quota will have risen to 60 %. Most urban growth (95 %) will happen in the developing world, putting stress on fresh water supplies, sewage, the living environment, and public health. Greenhouse gases are also an issue with cities discharging 75 % of carbon emissions and consuming 60–80 % of all energy. At the same time, their density is identified as an advantage when it comes to efficiency gains and technological innovation. One of the 17 goals formulated within the United Nations Sustainable Development Goals (SDG), created as a framework for governments to be used until 2030, was to improve cities by making them more inclusive, resilient, sustainable, and safer (United Nations 2016).

Among the 169 targets defined in the agenda are green and public spaces (United Nations 2016). The protection and safeguarding of the world's cultural and natural heritage is – along with special attention towards air quality, the reduction of cities' environmental impact and other bullet points – the core of goal 11 of the agenda.

The SDG goals, meant to transform the world by improving peoples' living conditions all around the world, include topics like the improvement of infrastructure, health, and education and the fight against climate change, poverty, and inequality. These were not met with universal acclaim. Britain's former Prime Minister David Cameron was critical of the SDG in the past, voicing concerns that 17 goals were simply too much and

therefor preferring them to be cut down to ten (Ford 2016). While it is justifiable that a too vast and complex set of goals will hinder rather than encourage implementation, Cameron failed to make clear which goals he would prefer to cut. Germany's chancellor Angela Merkel on the other hand was keen to support the agenda, pointing out that the SDG unites economical, ecological and social aspects of development (ARD Tagesschau 2015). Former US-President Barrack Obama spoke of the importance of committing to the implementation of the Sustainable Development Goals in the face of an overwhelming number of threats to human development (United States White House 2015). Current US-President Donald Trump on the other hand is on record dismissing climate change as a hoax (Trump 2012).

they all share a vision of a future that will be 'healthy', 'green', 'smart', 'sustainable', 'ecological', 'biodiverse', and focus on the 'environment'

On an international level, the inception of guidelines like the SDG and the Paris Agreement following the 2015 Climate Change Conference is crucial in order to establish a common strategy against global warming. On a local level, cities have adapted their own policies. City developmental strategies such as Duisburg 2027, the London Plan, and #OneNYC do not focus exclusively on environmental issues, but also address social, economical, and other general matters like education, health, housing, transport, culture, and so forth. They also differ in scope: While Duisburg's development strategy for living and working serves as an orientation basis for future development (Stadt Duisburg 2015), New York's mission statement aims to establish New York as 'the most sustainable city in the world' (City of New York 2015). London's infrastructure document outlines the spatial development strategy for the Greater London Area (Greater London Authority 2016a). While their priorities and level of detail vary, they all share a vision of a future that will be 'healthy', 'green', 'smart', 'sustainable', 'ecological', 'biodiverse', and focus on the 'environment'. In addition to their adoption in the citywide strategy papers, these terms are also prominently represented in the parks' official information materials, on their homepages, and their social media platforms. The widespread use of this jargon is no coincidence.

The most ubiquitous of these buzzwords are 'green' and 'sustainable'. Since 'green' is more than just a vague concept but instead describes a colour as well (indeed the colour of 2017 is Pantone 15-0343, also known as 'greenery'), analysis is difficult. So, in order to show the intentions behind the framing of a term such as green, the case studies will be examined in regard to the concept of 'sustainability'.

06.01 – Sustainability

First used around 1727, sustainability describes 'a method of harvesting or using a resource so that the resource is not depleted or permanently damaged' (Merriam-Webster 2016). The most widespread and accepted definition of sustainability today hails from the 'Report of the World Commission on Environment and Development: Our Common Future' also known as the Brundtland report and reads as follows:

> Humanity has the ability to make development sustainable to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs. (World Commission on Environment and Development 1987, 16).

A sentence as beautifully structured as it is vague. The 300 page document lays out a possible path towards a sustainable future, how the international community could deal with environmental concerns, and how it can 'help to define shared perceptions of long-term environmental issues' (World Commission on Environment and Development 1987, 5). It is directed towards governments, private enterprises and the people of the world (World Commission on Environment and Development 1987, 8).

The four common central meanings of sustainability are equity, futurity, quality of life, and the environment (Myers and Macnaghten 1998, 338). These key terms always remain general and abstract. They are seldom precisely defined or made more specific within the policy discourse, irrespective of the audience or organisation, invoking a shared consensus with ambiguous appeals (Myers and Macnaghten 1998, 339). The term sustainable development means different things to economists, ecologists, environmental planners, and environmental activists, even though it is used as if consensus existed concerning its desirability (Redclift 1993, 351). The ideas of sustainability are both ambiguous and powerful, and their interpretation depends on what people associate with them (Myers and Macnaghten 1998, 351). This means that despite its ubiquitous use, sustainability et al mean everything and northing because their squishy definitions do not allow for clarity. This is deliberate since it means that the terms can be adapted to any and all uses where needed, lending projects prestige, credibility, and gravitas.

As British philosopher Michael Loughlin explains in his paper 'On the buzzword approach to policy formation', dealing with the phenomenon of problems of policy making in the health service: 'if we do not know what the words [...] mean, it follows that we do not really know what the policy is' (Loughlin 2002, 230). The recipe for his 'buzzword approach to policy formation' is to pick a term already extensively used by the industry, to then further encourage its widespread use and finally to declare it has become a key concept for whatever belief you want to spread, and in the process create a setting where to argue against or even criticize the cause appears unreasonable in itself (Loughlin 2002, 231).Those who argue against sustainable measures allegedly do not care about the

'if we do not know what the words mean,
it follows that we do not really know
what the policy is'

environment and therefor the future of the entire planet apparently is of no concern to them, hence making any rational debate pretty much impossible right from the start.

Instead of providing information, words such as sustainability, green, etc act as shibboleths which signal the projects' affiliation with a certain type of attitude and philosophy, making perfect sense to anyone who is in on the context. Using this type of shorthand is not per se a bad thing: it can save time and energy and help those who are on the same page to communicate more easily. However, problems can arise when people either do not share a baseline of definitions or the situation of dubiety is being taken advantage of. If Sturgeon's law is correct and 90 % of anything is junk, then it must follow that at least some of those who use expressions like 'biodiversity' or 'ecology' do so without having the best intentions at heart and just want to surf the wave and profit from the rumble surrounding certain concepts.

When addressing the public sustainability is often presented as something that everybody has to get involved with in order to save the planet from certain doom. But the discussion remains at an abstract level, and the public's misconceptions about and misinterpretations of sustainability are deliberately not resolved (Myers and Macnaghten 1998, 334). In order to succeed in promoting participation, certain factors have to be put in place: people need to be aware of a threat and understand it concerns them, messages need to be clear and simple, there must be faith in the institutions through which the information comes, and a sense of personal responsibility must be instilled (Myers and Macnaghten 1998, 334).

Every project presented here has aspects that can be interpreted as sustainable, even if the project on the whole has a terrible ecological record. But by picking out and stressing the positive traits and leaving out the negative ones, an image of sustainability can be created. And once a project is deemed sustainable, it stands on much stronger footing in the public discourse.

06.02 – Garden Bridge
Green is Good

The urban projects Landschaftspark Duisburg Nord (LAPADU), Queen Elizabeth Olympic Park (QEOP), Garden Bridge (GB) and High Line (HL) all use specific terminology to evoke a certain image, regardless of the reality of the situation. The language is loaded with hidden meaning. The more vague the term is to begin with, the better this will work; lack of clarity and the use of vague platitudes further boost the bafflement, leaving it up to the reader to decode the intent of the message while at the same time allowing the anonymous authors to fill scores of pages with filler content. This following statement is taken from from the *Garden Bridge Planning Application Design and Access Statement (Part 3 of 3) May 2014*:

> The project team has undertaken concerted effort to integrate sustainability across design decisions. Overall, the Garden Bridge reflects good practice in sustainable development with areas of highest performance reflecting a focus on themes of culture, form and space, health and wellbeing, transport, biodiversity, and light pollution. (Garden Bridge Trust 2014a, 109).

The paper goes on to explain what their 'sustainable attributes' include (full list as mentioned in the statement):

> [1]• A new physical link between the north and south banks of the River Thames would provide opportunity to strengthen community connectivity within central London. [2]• The location would provide a valuable new pedestrian crossing over the River Thames, improve resident and visitor access between the river banks and attract visitors to the area. [3]• Provision of new open space on the bridge and landing areas would create a new amenity for social interaction. [4]• Promotion of walking and engagement with the outdoors would promote an associated increase in physical and psychological well-being. [5]• Bridge materials have been selected to last the life of the bridge (120 year design life) for minimal maintenance requirements. [6]• A diverse planting scheme with native and adaptive species would promote new habitat. [7]• The design concept would link the bridge landscape with existing green areas, creating a unique cross-river green link and connect the green network north and south of the River Thames. [8]• Use of an existing building on the north landing would minimise the development footprint. [9]• Considered lighting design would minimise energy use and urban light pollution. [10]• An inclusive and equitable design would accommodate users of all ages, abilities and cultures. [11]• High-performing building design for the south landing area is tracking compliance with 'Very Good' performance set out in the BRE's BREEAM assessment method. (Garden Bridge Trust 2014a, 109).

The initial statement borders on the unintelligible and the rest does not fare much better. Points [1], [2], [3], [7] and [10] state more or less nothing more than that the Garden Bridge will be a bridge.

Point [4] declares that physical exercise is good for people's health. Point [5] speaks of the end of life of the bridge, a time so far into the future as to be of no concern to anyone alive today. Point [6] states that there will be plants in the garden, [8] spins the necessity to leave the Temple Station as it is into a success story. Finally, points [9] and [11] talk about the project's energy consumption. The language makes Orwellian nightmares of newspeak come true by being deliberately ambiguous and complicated. The long copy gives the impression that something important has been said, even if people do not read the entire document (Ogilvy 1983, 88).

The bloated terminology conveys a sense of importance, of there being an abundance of information. Every bullet point drives home the ultimate message: we thought long and hard about this, we care, we want to make a good place, we want to create a better future.

The long copy gives the impression that something important has been said, even if people do not read the whole thing.

The Garden Bridge Trust relentlessly stresses the fact how sustainable the design for the bridge is, providing a 115 page Sustainability Statement as part of the planning application as required by the GLA (Garden Bridge Trust 2014b). And yet, when it was revealed that the copper-nickel alloy that will clad the structure will be donated by Glencore, a multibillion-pound mining giant, alleged human rights abuser, and largest exporter of seaborne coal (a decidedly unsustainable material), subsequent criticism from Greenpeace and other environmentalist and human rights advocates was evaded by the Garden Bridge Trust (Townsend 2015).

In addition to these concerns, the amount of green space added to London would be less than half a football pitch and its environmental impact is correspondingly small. It is similarly alarming that the embodied energy of the steel and copper-nickel cladding is probably high (Moore 2016, 396).

The project's advocates stress its postive impact for London, chief among them a chance to serve as a 'catalyst for new business activity, particularly in areas in need of regeneration, such as the North Bank and the Waterloo opportunity area' (Greater London Authority 2014a). However, the Borough of Lambeth and especially the City of Westminster are among the boroughs of London with the highest median household income, the lowest unemployment rates, and while the median house price for Lambeth council is average, it is exorbitantly high for Westminster compared to the rest of London (Greater London Authority 2014a). Due to the high density of the inner boroughs the amount of green space in Westminster and Lambeth is comparatively low for London as a whole, but average for an inner London borough.

06.03 – Queen Elizabeth Olympic Park Legacy and Sustainability

The QEOP is situated in the boroughs of Hackney, Newham, Tower Hamlet, and Waltham Forest. In 2005, these boroughs had a high unemployment rate, median household income was significantly lower, while median house prices were average compared to the rest of London (Greater London Authority 2014a). Life expectancy for these boroughs was also lower than the London average.

The sustainable redevelopment of this part of East London was central to the 2012 Olympic bid. At the core of these efforts was the creation of the Olympic Park which was originally planned as a linear green space stretching all the way down to the Thames. But the economic crisis of 2008 led to a downsizing of the project with certain features being discarded altogether, like orchards, an events lawn, the cricket pitch, a One Planet ecology pavilion, and large wind turbines (Smith 2014, 316–318).

By 2050 the All London Green Grid will maintain a network of green infrastructure which will provide an attractive environment, space for walking, cycling, and recreation, flood protection, drainage, biodiversity, and shade (Greater London Authority 2014b, 9). QEOP is an integral part of this scheme, serving as a role model for future green infrastructure projects. In an interview with the BBC designer James Corner stated that the initial vision was to 'transform a very derelict piece of land into something green, lush, living, ecological, beautiful, but also a place for people.' (BBC 2014, 01:18). GLA had plans to redevelop the neglected and partially contaminated site in combination with the regeneration of the Lower Lea Valley irrespective of the Olympic Games (Tate 2015, 153). However, Andrew Smith argues that the state of the site itself – which had been described as a toxic wasteland in need of repair, a void in need to be filled, a wound in need to be healed – was by no means as desolate as initially stated, since about 92.8 ha of land on the site had already been recreational land and only a small portion was used as a dumping ground (Smith 2014, 317). He argues that framing the premises as desolate wasteland is a strategy to justify large-scale urban change (Smith 2014, 317).

The International Olympic Committee selected London as host city out of a pool of nine contenders – of which five were shortlisted in 2004 – in July 2005. London asserted itself against Paris in the fourth round of voting, becoming the first city to host the Olympic Games for a third time after 1908 and 1948 (BBC 2005). The concept of the Olympic Games itself is inherently unsustainable: by creating venues and infrastructure for an event that will last two times two weeks and then moves on to the next city, often large ghost towns are left behind and cities are burdened with debt and decaying structures. London's bid saw an alternative for this calamity by treating the Games as a stopover to the ultimate goal of creating a vibrant new district, to be completed by 2030. This transformation would serve 'an entire community for the direct benefit of everyone who lives there' (Greater London Authority 2014d, 2).

Sustainability and legacy were the two key concepts for the post-Olympic use of the park. The organization tasked with executing this sustainable vision is the London Legacy Development Corporation (LLDC). The venues and the park itself were designed as a prototype for a new kind of sustainable development.

Here sustainability is not exclusively focused on the environment but is also concerned with economic growth, prosperity, social equality, and employment (Greater London Authority 2012b, 2). This sustainable vision encompasses three themes: people, places, and performance. The main goals are:

- to inspire and enable a sustainable lifestyle for the residents of the new living quarters
- to create biodiverse green spaces along with usable and most importantly clean canals and rivers
- to push new standards of venue construction

(Greater London Authority 2012b, 8).

These goals will be achieved by various measures like water management and conservation, more specifically grey water treatment, rainwater harvesting, an increase in efficiency, minimizing water demand, and reducing potable water use (Greater London Authority 2012b, 53). Energy conservation and carbon reduction are also important, as all new constructions are aimed to be zero carbon buildings and the corporate target is a 25 % reduction in emission over five years (Greater London Authority 2012b, 54–55). Events held at the park aim to use recyclable and biodegradable packaging, as overall waste management and recycling is strongly encouraged: the goal is that by 2030 no waste whatsoever should go to landfill (Greater London Authority 2012b, 56–57).

'transform a very derelict piece of land into something green, lush, living, ecological, beautiful, but also a place for people.'

The site is well connected to the rest of London, which is important since the park aims for 95 % of visitors to arrive on foot, cycling, or via public transport (Greater London Authority 2012b, 58). Biodiversity is also part of the legacy plan, with 45 ha Biodiversity Action Plan habitats and an effort to avoid chemical control of diseases, pests, and weeds (Greater London Authority 2012b, 59). These habitats are grasslands, built environment, squares, allotments, brownfield habitats, ponds, wet woodlands, rivers, reed beds, trees and scrubs (Great Britain 2011, 9).

The Olympic Games 2012 are generally seen as a success. The venues were either repurposed or demolished and are well received by the public. The park is expected to host 9.3 million visitors in 2016 alone, 11,000 new homes were created, 186,000 m2 of commercial space – including Stratford city, retained venues, and surrounding developments that can be expanded when needed (Greater London Authority 2012b, 78). It has been noted that although the vision of a sustainable afterlife for the Olympic venues helped stage the Games, in practice the objective of sustainability has been downplayed in favor of recreational and tourism interests (Smith 2014, 318). Attractions like Anish Kapoor's ArcelorMittal Orbit and the London Stadium (formerly known as Olympic Stadium) have become the main pulls of the park, whereas educational facilities like the energy centers have taken a backseat. Whether the ambitious goals concerning the park's sustainability will be achieved remains yet to be seen.

06.04 – Landschaftspark Duisburg Nord
A different kind of sustainability

In her introduction to *The Once and Future Park* Deborah Karasov writes that

> 'the consequences of not rethinking parks, I believe, would be alarming [...] Parks could educate our children about the change, decay, and disorder that affect the environment today.' (Muschamp 1993, 7).

LaPaDu remembers its past without fetishizing it, and in the process allows a new generation of people – especially those who previously had no access to the industrial site – to experience the place, its rich history, and the transformation it underwent.

The main goals of the IBA Emscher Park aimed to ecologically transform the fluvial system of the Emscher along a 350 km stretch, to reassess the abandoned industrial sites, to reutilize and conserve industrial monuments, to modernize the housing developments, and to preserve and reconstruct the regional landscape (Oliveres i Guixer 2017). Landschaftspark Duisburg Nord is an important part of this development. Unlike QEOP, where the whole site was redeveloped and rebuilt from scratch, LaPaDu aimed to retain as much of the industrial facilities as possible. The former Thyssen plant had closed down in the 1980s and the public was not aware of the high levels of water and land contamination present at the site (Oliveres i Guixer 2017). The design of the place addresses these ecological issues.

A major concern was the clean-up of the river Emscher, which had once been a free flowing river but by 1990 was little more than a stinking waste-water ditch (Lubow 2004). The dirty water was painstakingly channeled into underground tunnels directly underneath the orthogonal canal, which was filled with rainwater collected on site instead (Lubow 2004). The ditch itself was left as it was, for even though nature-conservationists advocated to going back to a pre-regulated meandering river, this was deemed impossible by the planners as Latz himself stated: 'No one can find a natural river here.' (Lubow 2004). And so the straight-edged canal remained. The way this situation was handled by the planners is exemplary for the whole site: here nature is not synonymous with wilderness or something untouched by man but is instead considered an amalgam of human and natural intervention, developed over time. The myth of nature as a refuge from the city or even humanity itself – one of the major sentiments behind the development of Olmsted's Central Park – is refuted and as Peter Latz himself states: 'Landscape is not the opposite of the town. Landscape is culture.' (Lubow 2004).

nature is not synonymous with wilderness or something untouched by man but is instead considered an amalgam of human and natural intervention, developed over time.

The natural environment is often seen as fundamentally detached from culture, as something that can be exploited by, or is in need of protection from humans. A city's ecosystem is very complicated, and heightened awareness of the complex coherences between nature and built environment has led to an increase in interest in urban ecology as a scientific discipline. At LaPaDu this intersectionality is highly visible. For

example, about 200 plant species usually not native to Germany were found at the site. They were considered exotic and therefor requested to be extirpated by conservationists. But Latz favoured an approach where gardeners and maintenance workers were educated on how to take care of the plants instead (Lubow 2004). Now vegetation usually found in steppes is growing on surfaces compromised of smelting materials, ash, and sand (Oliveres i Guixer 2017). There are many more micro-systems like this spread across the park. These plants would not be able to grow if it weren't for the environment provided by the post-industrial site.

'Landscape is not the opposite of the town. Landscape is culture.'

The clean-up of the site is an ongoing process. Some parts are still too poisonous for use, and while the worst chemicals have been removed, others were either just fenced off or covered with clean materials (Lubow 2004). The planting has been adapted accordingly – under the premise that if trees grew on these artificial and partially poisonous mounts, they would potentially absorb toxins in the soil that have not yet degraded (Lubow 2004).

In addition to ecological renewal, strengthening the cultural identity of the area by preserving the industrial site was an important aspect of the sustainable redevelopment for the Emscher region. John L. Crompton says that historical preservation is integral in order for people to feel stable as the remnants of the past give people lingering evidence of who, what, and where they are and what once was (Crompton 2000, 111). Parks offer environmental stewardship where people can experience things they cannot find in a built environment and preserve cultural history (Crompton 2000, 111). The transformation of the industrial ruins by plants is a constant reminder of the overwhelming power of the force of nature. Latz states that 'Landscape is basically history. There are only two possibilities: To obliterate that history or to make it your partner.' (Heyman 2015). The steel-plant has been adapted for new uses and functions as a reminder of the region's past, highlighting the original spirit of the place while simultaneously creating an environment fit for visitors where events like Sommerkino (open air cinema during the summer months) or Traumzeit Festival are held, drawing about 1 million visitors in total each year.

At LaPaDu the new landscape is not imposed over the old but instead highlights the transformation process the area went through. The scenery hosts a multitude of layers of information that can be invisible or visible, abstract or concrete, exist physically or as memories (Loures and Panagopoulos 2007, 795). This is the result of a reinterpretation of the post-industrial site, using what was found to create new and ambiguous places. It is at the same time a memorial to the Ruhrgebiet's industrial past and a well functioning public space, visited by tourists and residents alike.

06.05 – High Line Greenwashing

The removal of the old lead-based paint and the subsequent repainting was one of the costliest parts of construction for the High Line (Tate 2015, 38). Initially no irrigation system was planned for the park, yet after a wet first and a dry second summer, Section 1 was retrofit with the appliance while it was incorporated into Section 2 from the beginning (Tate 2015, 45). According to the Friends of the High Line (FHL), sustainability is a major aspect in the park's operation and was also factored in very early in the design process: plants chosen for the site were primarily drought-tolerant, low maintenance, and native species, many of which had been part of the 'wilderness' prevalent on the structure during the late 1990s (Friends of the High Line 2016d).

Watering, composting, integrated pest management, and snow removal are the major maintenance tasks in the park. Watering can be kept to a minimum due to the irrigation system and the resilience of the planting. Composting happens on site, a process that results in recycled waste and reduces the need for commercial fertilisers (Friends of the High Line 2016d). And the 'Integrated Pest Management (IPM) program' is zealous 'to sustainably address issues dealing with potential pests and diseases.' (Friends of the High Line 2016d). Snow removal is achieved with the help of snow throwers and other power equipment, partially melting the ice where necessary, since the elevated position of the High Line and the high winds quickly lead to freezing (Friends of the High Line 2016d). The main objective here is to keep the park safe for visitors.

This stands in direct contrast to the goals of sustainability laid out by the FHL. Furthermore, the information page on Sustainable Practices is sponsored by TD Bank. This is part of a three-year sponsorship scheme planned to finance operation and maintenance of the High Line, starting in September 2016 (TD Bank 2016). TD Bank is one of America's biggest banks with more than 8 million customers. They are also one of several banks funding the Dakota Access Pipeline (DAPL). This crude oil pipeline has been the subject of highly publicised protests by Native Americans at the Standing Rock Sioux Reservation in North Dakota since early 2016. The main concerns of the project's adversaries are ecological, since a leak or spill could contaminate the Missouri River, a main source of drinking water (New York Times Editorial Board 2016). TD has faced criticism for its support of the controversial pipeline and issued statements declaring that it 'supports responsible energy development' and 'environmental sustainability' of the project (Vasil 2016).

This eco-chic approach to environmentalism has every appearance of being eco-friendly and yet mostly happens for the benefit of PR-people and drives home a simple message: Green, for the lack of a better word, is good.

This gives rise to the following questions: Why does TD support a potential ecological disaster in the making and one of the most beloved green infrastructure projects in recent history? Why do they spend $1 million over three years on a park, calling it a 'generous gift' (TD Bank 2016)? And why would a company like Glencore sink money in a project like the Garden

Bridge by donating 240 tonnes of material? What could possibly be gained from this on either side?

In the case of the Garden Bridge the donation equals free cladding. For The High Line it means less stress to raise maintenance funds. For Glencore and TD on the other hand this is an opportunity to present themselves as environmentally friendly goodwill patrons of a public green space and model of sustainability, conscious of their importance for the realization of the respective projects. It is estimated that DAPL will cost around $3.7 billion, $130 million of which TD finances (Wheeler 2017). The $1 million donation over three years hardly carries weight with these numbers for comparison. This eco-chic approach to environmentalism has every appearance of being eco-friendly and yet mostly happens for the benefit of PR-people and drives home a simple message: Green, for the lack of a better word, is good. With the threat of significant fines, corporations seeking to save their souls have but one choice – to trade favors with authorities by cooperating, accepting responsibility, and providing evidence of renewed compliance initiatives (Laufer 2003, 253).

Greenwashing is used by companies to 'creatively manage' their notoriety in the public perception by pivoting attention away from their faults and wrongdoings.

This tactic of corporate misinformation (as Greenpeace also noted in its criticism towards Glencore's involvement with the Garden Bridge) is called ‚greenwashing' (Townsend 2015). Greenwashing is used by companies to 'creatively manage' their notoriety in the public perception by pivoting attention away from their faults and wrongdoings, hiding the true nature of the accusations brought up against them, instead reattributing blame and in the process making sure the entity's reputation remains intact, seeking to become the apparent leader in the field (Laufer 2003, 255).

To some extent, it could be argued that this policy is in varying degrees employed in the very conception of the schemes studied here. But what is the difference between blatant greenwashing and marketing? Are sponsorship agreements generally bad or do the ends justify the means? Is it important that these undertakings only appear to be sustainable? It can be argued that yes, it very much is: People accept these projects under certain assumptions – they are good for the environment, they benefit the people, they serve as an incentive for regeneration of certain areas – and large sums of public money are readily invested. When this happens under false pretenses, it is deception at best and right out fraud at worst. Sustainability and landscape design usually form an easy alliance which means that the abuse of their inherent affinity for marketing reasons can do lasting damage to the environmental movement and the development of new urban green spaces as a whole.

06.06 – A Fifth Model for Urban Parks

Landscape architecture is often considered to foster environmental sustainability through apparent 'green design' (France 2003). This has led to many projects that are marketed to appear 'environmentally friendly', 'green', 'sustainable', 'ecological' and so forth. In the 1990s, the American Society of Landscape Architects (ASLA) supported the view that landscape architects should do more than just decorate; instead they should play a key role in building a regenerative and ecologically healthy world in and for the 21st century (France 2003). Widespread misconceptions and vague terminology also lead to the assumption that all built landscapes, no matter their purpose, size, or ecological performance were inherently green in color and concept. But in reality this assumption simply does not hold up, as most projects of landscape architecture cannot be considered sustainable by any definition (France 2003).

Cranz and Boland divide the history of park design into five major movements. In the 19th century there were Pleasure Grounds for strolling, followed by Reform Parks intended to provide safe space for children's play, which made way for recreation facilities focused entirely on sports. After that Open Space Systems – providing spaces for psychic relief, free form play, and participatory arts – were created from the mid 1960s onwards (Cranz and Boland 2004, 103). They argue that since the 1990s a new development can be observed, the so-called fifth model that once again is aimed at people's wellbeing and an emerging new factor: ecological health (Cranz and Boland 2004, 103). Here the park is varied in size and serves as part of a larger urban system, providing areas for strolling and versatile active and passive forms of regeneration (Cranz and Boland 2004, 103). The ecological balance and general sustainability of these parks can be achieved by following principles of self-sufficiency concerning materials, plants, fertilisation, water use, avoiding pesticides, maintenance and energy policy; treating the park as a component of the larger system that is the city whose main problems are infrastructure, reclamation, health and social well-being, and using the aesthetic language of the day (Cranz and Boland 2004, 103).

Queen Elizabeth Olympic Park had from the very outset – when it was planned as an Olympic Venue – a sustainable game plan that would reach far beyond the Games that shaped its inception, presenting and selling the public and the Olympic Committee a proposal for London 2030 and beyond (Greater London Authority 2012b). The Friends of High Line's endeavour to preserve the wilderness found within Manhattan's canyons were an exemplary team effort in selling something that nobody knew they wanted or needed. Duisburg's Landschaftspark had the difficult task to lead the way on the rebranding of an entire region. The Garden Bridge was the brainchild of an actress, a mayor in need of a legacy and a designer whose striking proposals led to some of the most fascinating moments of the 2012 games coming together and 'trying to pull off a crime' as Heatherwick himself put it (Wainwright 2014b).

So do these parks fit into the model developed by Cranz and Boland? LaPaDu and QEOP are typical examples for the fifth model: they are both part of larger systems, they provide facilities and open spaces for walking, hiking, biking, and other active and passive forms of recreation, and put a focus on the use of

ecological restoration, permeable surfaces, and native plants. In addition to that, QEOP is considered to be a showcase project for green infrastructure in London.

The High Line and Garden Bridge on the other hand do not fit this mould: they are very small in size and the only activities encouraged are walking, strolling, and jogging. These two green spaces are situated in the middle of the city but are meant to stand apart. Their sustainable footprint is questionable. Their main elements are trees, grass, shrubs, paths, and flowers. Bodies of water – the Hudson and Thames respectively – are visible and in the case of the bridge are an integral part of its charm. While the High Line was championed by two residents of Chelsea who wanted to preserve a part of the 'old' New York, the Garden Bridge was contrived with the intent of creating a new icon for the British capital. These projects are still part of the Open Space System era of park design.

But even if the architecture of the analyzed projects itself is not 'sustainable' a case can be made that there is a factor that, while difficult to quantify, is not to be underestimated: Nature's ability to inspire and motivate people into action. In other words: 'If enough people cared enough, needed reforms would be put in place.' (France 2003). People's experience with undisturbed, protected green spaces in combination with education and engagement of communities can contribute to draw attention to the recognition and repair of damaged landscapes, and instill love for the natural world (France 2003). As a result, people who strongly support and enjoy the High Line could potentially become those most vehemently opposing a possibly environmental disastrous project like DAPL. In this respect, landscape architecture can work as a motivational tool to protect true wildlife preserves. In order for this effect to take place, people have to first experience parks. The next chapter will take a look at the case studies and their visitors, both real and virtual.

06.07 – Summary

As sustainability is a noble, complaisant, and most of all adaptable concept, the studied parks have adjusted it to their respective needs. The Garden Bridge and High Line run the risk of veering into greenwashing territory by using the notion primarily as a marketing tool. The Queen Elizabeth Olympic Park is also heavily marketed as a sustainable Xanadu, albeit on stronger footing. For Landschaftspark Duisburg Nord – which predates the other three objects by almost two decades – sustainability for marketing purposes does not play a vital part compared to the other projects.

Reality leaves a lot to the imagination.
John Lennon

07 – IMAGINARY PLACES

As cities become more alike and generic, landmarks and sights help to retain a sense of individuality. This is important not only for people who live there but also for those who come to visit. For why would anyone spend time and money to visit a place that is exactly like home? Tourism is a huge industry for cities – London welcomed 18.6 million (Visit Britain 2016), New York City 59.7 million (McGeehan 2015), and the Rhine-Ruhr metropolitan region 6.3 million visitors in 2015 (Touristiker NRW 2016). As a result, the creation of landmarks is becoming more and more important for cities. The Rhine-Ruhr metropolitan region has transformed many old industrial sites into landmarks, chief among them the Zeche Zollverein – designed by OMA and Böll – in Essen, the Gasometer in Oberhausen, and the newly erected Zollverein-Kubus by Sanaa. In the past years London has created many structures and buildings that have since been elevated to iconic status including the London Eye, Renzo Piano's Shard, and the Millennium Bridge by Foster and Partners in collaboration with ARUP and Sir Anthony Caro. New York's skyscrapers and the resulting skyline are among the most recognizable sights in the world and in the past years the One World Trade Center – designed by David M. Childs – flanking Calatrava's PATH-Station and Rafael Viñoly's 432 Park Avenue have joined their ranks. These structures have reached a high recognition value in a relatively short time due to their distinctive design.

Ultimately, how we perceive our surroundings depends on us as spectators. Kevin Lynch writes: 'The observer himself

should play an active role in perceiving the world and have a creative part in developing his image.' (Lynch 1960, 6). In this respect, landscape is made up from rocks and mountains as much as from memory and analysis – in the end wilderness and the manicured garden are just two opposing implementations of culture's craving and framing (Schama 1995, 7). Scenery is a product of perception and the resulting interpretation by the viewer. Therefore landscape is something we create in our minds.

Sharing these ideas of landscape works best with the help of a medium. And while descriptions of landscape are abundant in literature and music, images of scenery – loaded with symbolism, ideology, history, sentimentality, and more – are probably the most immediate tool for communicating these concepts. In the past this happened mainly in the form of paintings, engravings, drawings, and the like. Early tourists would take home vedutes of scenes they had observed on their travels. Today the most straightforward means to create images is of course photography. The visual impact of a landscape and its comprehensibility become paramount and often nature worth enjoying is only nature that is deemed worthy of a photograph (Kienast 2002, 9). Susan Sontag wrote that:

> It would not be wrong to speak of people having a compulsion to photograph: to turn experience itself into a way of seeing. Ultimately, having an experience becomes identical with taking a photograph of it, and participating in a public event comes more and more to be equivalent to looking at it in photographed form. That most logical of nineteenth-century aesthetes, Mallarmé, said that everything in the world exists in order to end in a book. Today everything exists to end in a photograph (Sontag 1979, 24).

While in the past these photos were either put in an album or shown in a slideshow, today everybody who is so inclined can put them on platforms like Twitter, Instagram, and Facebook, sharing their experience with the whole world – or at least their followers and friends. Before people tagged others in social media posts, they sent postcards from faraway places – the medium has changed, yet the thought behind it has stayed the same: 'Look how beautiful it is where I am!' What has changed is the scale – though the urge to share has remained the same, the audience has grown manifold.

This chapter will examine if and how the parks analysed in this thesis foster their appeal to a real or imagined audience. Social media platforms constitute an opportunity for entities to maintain a relationship with the public and have become powerful tools for measuring and expressing consumer behavior and attitudes, which are frequently used to understand real-time sentiments (Zimmer and Proferes 2014, 250). The four case studies examined here all have official social media accounts on Facebook, Twitter, and Instagram, disclosing information about the parks themselves, upcoming events, past events, and the like. With regards to numbers of likes Facebook is the most popular of these three platforms studied (with the exception of the Garden Bridge, which has most followers on twitter). Therefor the parks' Facebook account during June 2016 will be closer examined.

07.01 – Queen Elizabeth Olympic Park Building Icons

During the Olympic and Paralympic Games 2012 billions of people all around the world watched the sporting events taking place in and around QEOP. The

Figure: 41. ArcellorMital Orbit with Aquatics Cener in the Background

park has changed significantly since then as walkways, open spaces, and venues were adapted for everyday use. This process of transformation of the area is still ongoing: while the venues and the park itself were opened for the public in 2013, many of the housing, educational, and office developments bordering the site are currently still under construction or in various stages of planning.

Birds-eye view renderings offer a vision of the area once all construction will have been finished and the surrounding projects will have been completed. These images present lush green vistas of intertwining nature- and cityscapes, contrasting with the dreary London in the back. The former Olympic venues are harmoniously integrated into this scheme. The purpose of these images is to present the park as an attractive destination for resident Londoners and tourists alike, as a new metropolitan center tending not only to sport enthusiasm but meeting cultural needs as well (Greater London Authority 2016d, 4–5).

At street level the sports facilities and the park's infrastructure landscape elements form a positively picturesque backdrop. The northern part was created in the tradition of English landscapes of the 18th and 19th century, aimed to achieve the most appealing picture, a lovely arrangement of features with a variety of shapes and forms. QEOP projects the image of a place where nature and city work together as a well balanced ecological system. It serves as a blueprint for similar projects, promoting ideas of green infrastructure and showcasing London's efforts in these areas. Among the key business objectives for QEOP is to

> 'create a global, future-ready exemplar for the promotion of cross-sector innovation in technology, sustainability, education, culture, sport, inclusion and participation.' (Greater London Authority 2016d, 11).

Environmental sustainability, high quality design,

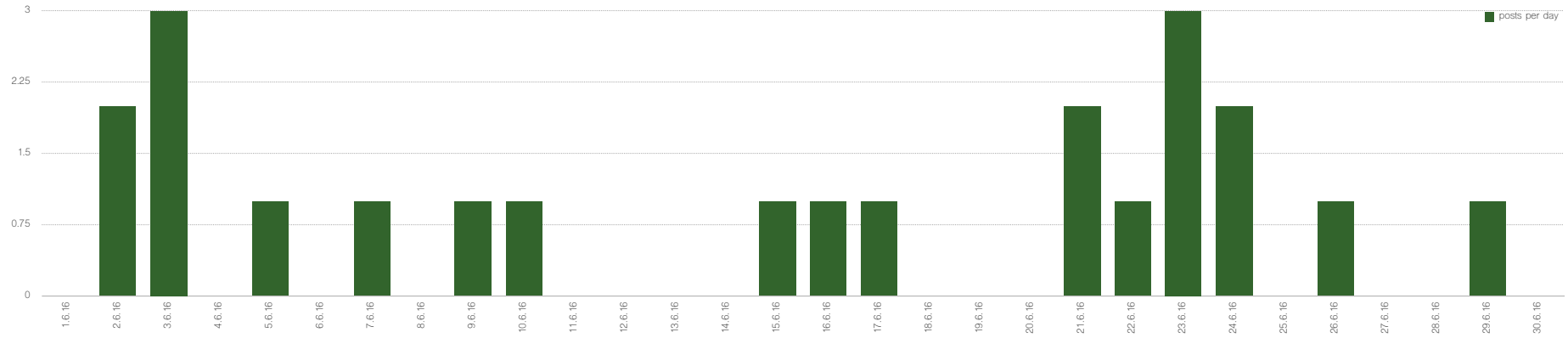

Figure: 42. Queen Elizabeth Olympic Park facebook posts per day

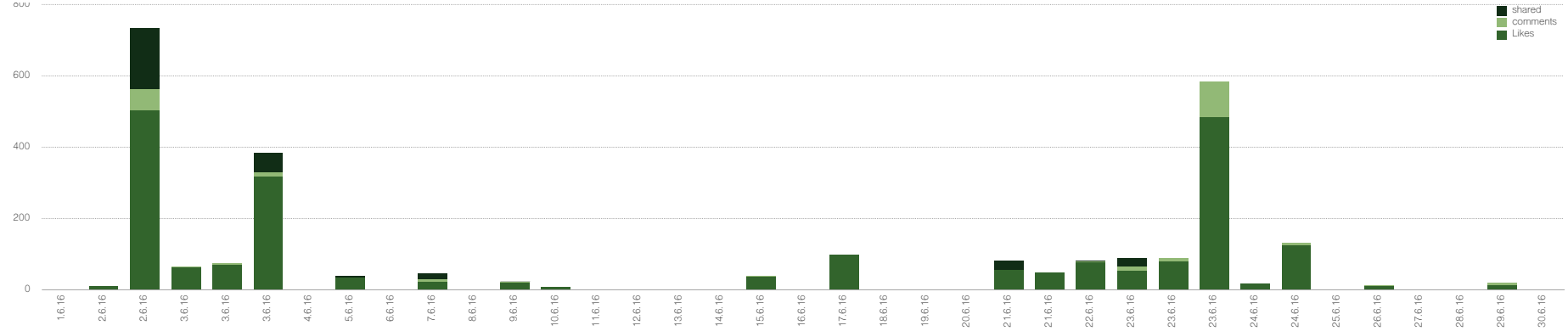

Figure: 43. Queen Elizabeth Olympic Park response to facebook posts

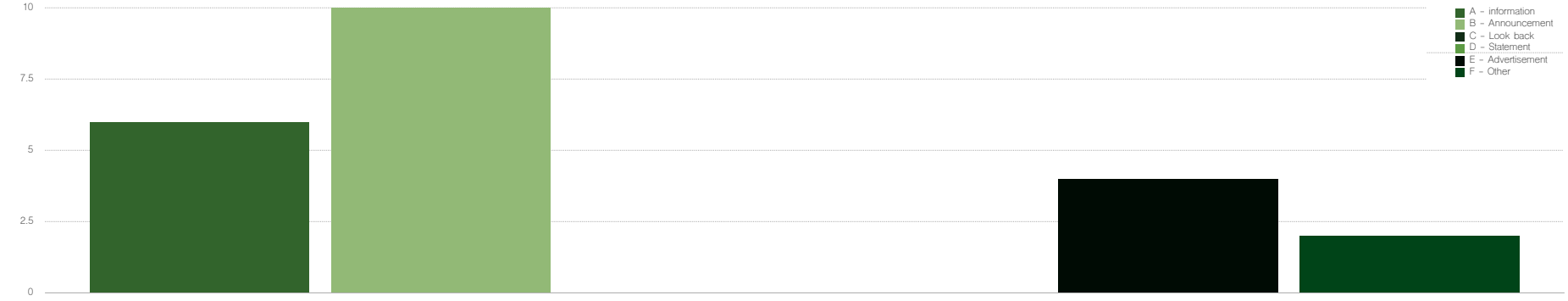

Figure: 44. Queen Elizabeth Olympic Park content of facebook posts

community participation, and 'championing equalities' are among the priority themes for the development (Greater London Authority 2016d, 11).

The slick, organic, and notably photogenic design of the sports venues provides ideal eye-catchers for the images. Among the structures most associated with the park today is the ArcelorMittal Orbit designed by controversial artist Anish Kapoor. This tower, which also serves as a giant slide, offers the best view over the terrain. On ground level, it serves as a point of reference, widely visible all over the park, helping visitors to orient themselves in the park (Lynch 1960, 48). In a race for emblematic individuality, the utility of the buildings has sometimes taken a back seat. Nonetheless, images of these constructions have permeated design magazines both on- and offline, blogs, and content sharing platforms like Instagram. Here photogenic interests often trump operational concerns: One of the main critique points against Zaha Hadid's Aquatics center was that the wings – which housed an additional 15,000 seats and were to be stripped down after the games – destroyed the visual impact of the building (Popp 2012).

According to the Olympic Park Legacy Company, by 2016 a total of 9.3 million visitors are expected to come to the park annually (Queen Elizabeth Olympic Park. 2017). From April 2015 to March 2016, the park welcomed 5.1 million visitors (Greater London Authority 2016c, 24).[1] Of these, 959,363 are apportioned to the Aquatics Center, 101,633 to the ArcelorMittal Orbit, and 427,790 to the Copper Box Arena (Greater London Authority 2016c, 24).

Queen Elizabeth Olympic Park uses Twitter regularly with 2.9 tweets on average per day since it joined the platform in June 2013. These are primarily used for information, announcements and advertisement for event partners. Facebook posts occur about once every 2.6 days – joined December 2012 – and Instagram is updated every 2.1 days since June 2014. As of February 2017 QEOP has about 47,133 followers on Twitter, Facebook, and Instagram combined.

1 as of May 2017 visitor numbers for 2015/2016 had not yet been released

07.02 – Landschaftspark Duisburg Nord
Et in Arcadia Ego

Landschaftspark Duisburg Nord welcomes about 1 million visitors annually (Skiba 2017). In 2014 about 3.75 million people arrived at the Regionalverband Ruhr, 214,766 of which can be allotted to Duisburg, which is more than double the amount of people coming to the city in 1990, a trend that can also be observed for the region as a whole (Regionalverband Ruhr 2015, 1–3). LaPaDu is one of the major locations of the 'Route der Industriekultur' (Industrial Heritage Trail) connecting a great number of museums, event locations, and sights based in former industrial facilities along a 400 km route (Route Industriekultur. 2017). Events like an open air summer cinema, the 'Traumzeit' music festival, the building of the biggest sandcastle in the world, guided tours, and the advents market 'Lichtermarkt' were the main attractions for visitors in 2016, while German and international TV stations used the park as a shooting location (Skiba 2017). Since 1996 one of the main attractions of LaPaDu is the art installation by British artist Jonathan Park, where the ruins of the former heavy plant are immersed in colorful light for six to seven hours during the evening (Landschaftspark Duisburg Nord 2016c). The lights were switched to energy saving LED lamps in 2009.

The Landschaftspark proves that even after a cataclysmic event (here the passing of industry), life still goes on. This is contradictory to the pervasive idea that the world will end in an 'ecological Armageddon' if we continue to act as we do now in concern to environmental protection and climate change (Swyngedouw 2010. 188). We face crisis after crisis in relation to nature and our relationship with it and LaPaDu offers an unexpected counterstrategy to the pervasive fatalism usually reserved for this subject. Here it is possible to adapt to the changing circumstances and instead of being hamstrung by powers we are unable to control, new ways of interacting with and cleaning up of nature are found. Nonetheless, the memory of the catastrophe radically permeates the park. The light installation and other modifications do not hide the industrial past but instead highlight it, bringing it front and center. The destruction and decay is always fully visible and still ongoing. Nature is often viewed as a harmonious ideal detached from humanity, a pastoral idyll that was once enjoyed and is now lost (Schama 1995, 519). At LaPaDu the destruction is fully present and integral to the design of the park, reminding

Figure: 45. Et in Arcadia Ego – Guercino c. 1618–1622

people that ruin – like beauty – is perpetual. Akin to the skull in Guercino's painting Et in Arcadia Ego, the former industrial plant reminds visitors of devastation in the middle of an allegedly peaceful landscape and affirms that the end of the world is just a layer away. Nature once again is dangerous to humanity like it

used to be in the middle ages and the fairy tales, only this time we made it so ourselves (Swyngedouw 2010, 186). We created the climate change that now brings catastrophe for us all. While in the past men felt alarmed by the wilderness itself and wanted to tame it, we now fear nature's eroding forces towards

Figure: 46. Lightinstallation Landschaftspark Duisburg Nord

man-made objects. In this respect LaPaDu can be viewed as a monument to our own destruction, as a memento mori of exorbitant scale. Alternatively, it provides us with much needed perspective that yes, there are forces beyond our control, but that our greatest strength as humans has always been to adapt to changing circumstances and to make the best out of a bad situation. Landschaftspark Duisburg Nord keeps a comparatively low profile on the social media circus. While it has maintained a Twitter feed since September 2010, as of February 22nd 2017 only 212 tweets have been sent, which equals about one post every 11 days. The Twitter feed is primarily used for general information, statements, and announcements about events. LaPaDus Facebook page (activated in May 2011) is busier with about 655 posts or one every 3.2 days. The park's Instagram account went online in February of 2017 and and since then 13 pictures have been posted with an average time of 1.4 days passing in-between. All in all, about 11,615 people follow the park across the three social media sites examined.

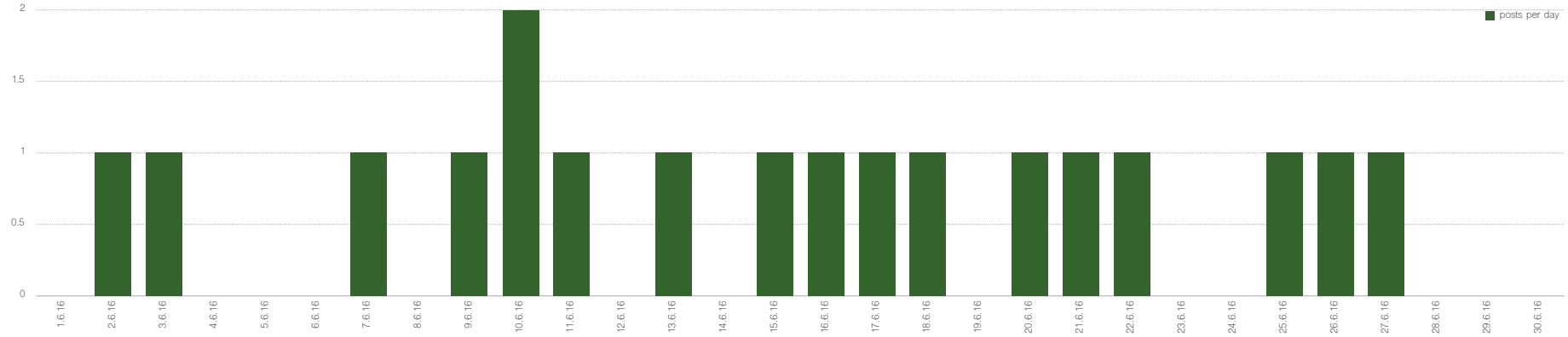

Figure: 47. Landschaftspark Duisburg Nord facebook posts per day

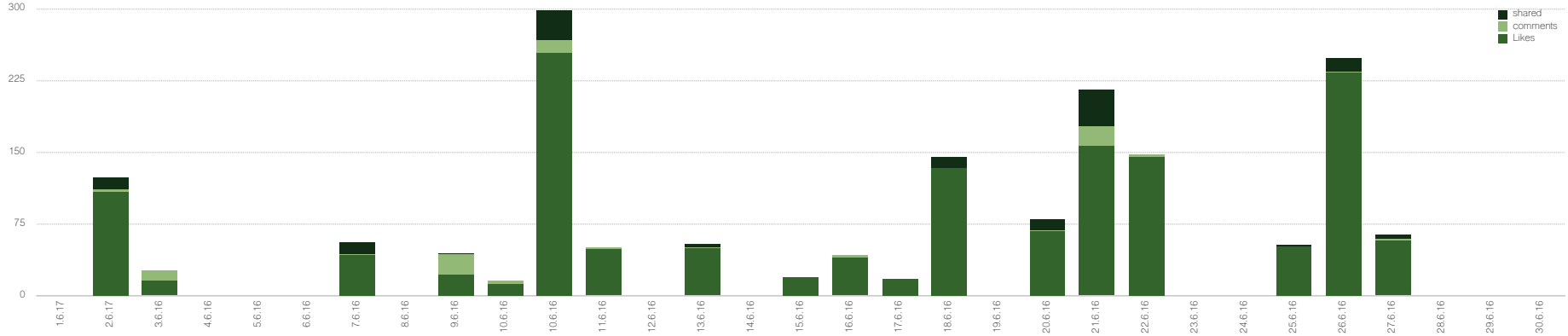

Figure: 48. Landschaftspark Duisburg Nord response to facebook posts

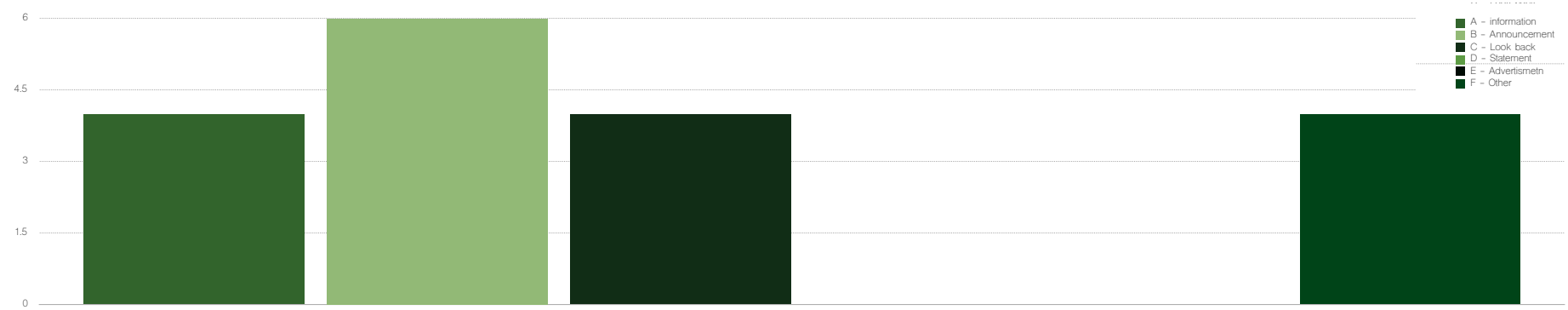

Figure: 49. Landschaftspark Duisburg Nord content of facebook posts

07.03 – High Line
#beautifulday #picsoritdidnthappen

Since its first section was opened for the public in 2009, the High Line has become one of New York's most visited landmarks, with nearly 8 million visitors flocking to the park in 2016 alone (Bliss 2017). For comparison: Central Park – which is roughly 12,000 times the size of the High Line – welcomed about five times as many visitors – 42 million – in 2016 (Central Park 2017). All in all, the former railway line has attracted about 36.1 million visitors over the past seven and a half years. This number has exceeded the original expectations by far. The park was originally planned with about 300,000 annual visitors in mind. In 2016, about 31 % of visitors were New York City residents, about 6 % of visitors lived in the immediate area of the park, 9 % lived within 45 miles of New York City and 28 % hailed from outside the US (Friends of the High Line 2016e, 5). The most common activities among visitors were taking a walk (92 %), watching people (64 %), enjoying the flowers (64 %), taking pictures (62 %), and relaxing (54 %) (Friends of the High Line 2016e, 12).

Figure: 50. Photo of the High Line by Joel Sternfeld 2001

The project that started out as an experiment in preserving a wild, old, and seemingly lost part of Manhattan has turned into the must-see attraction for tourists. Long gone are the days of the gloomy Sternfield photos that started it all: The popularity of the park sometimes leads to overcrowding and as a result it has to be shut down for new visitors. The images of the wild, free, and untouched land had planted a version of reality into people's minds that was very different from what they actually see when they visit. But that doesn't matter: The High Line is now flooded with people who are armed with cameras and ready to document their very own version of the landmark. While the initial images were vital for the inception of the project, they are no longer what people mainly associate with the park. The High Line is now at the center of a large and ongoing redevelopment project that swept West Chelsea in the past decade and the expectations for the experience of the park changed along with the neighborhood. But it can be safely assumed that the image the visitors hunt for has very little to do with the reality of the place. Today small galleries that had dominated the area in the early 2000s bear company to the Whitney Museum

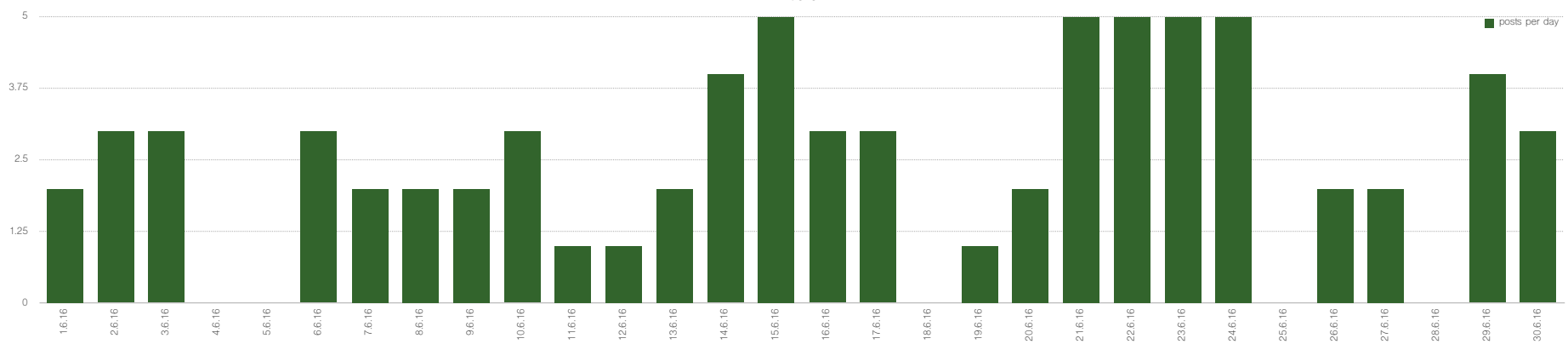

Figure: 51. High Line facebook posts per day

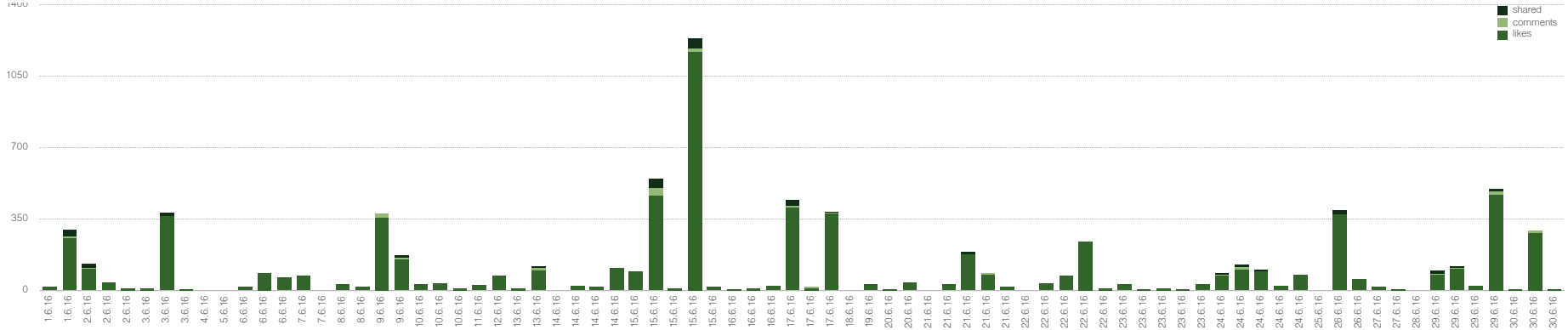

Figure: 52. High Line response to facebook posts

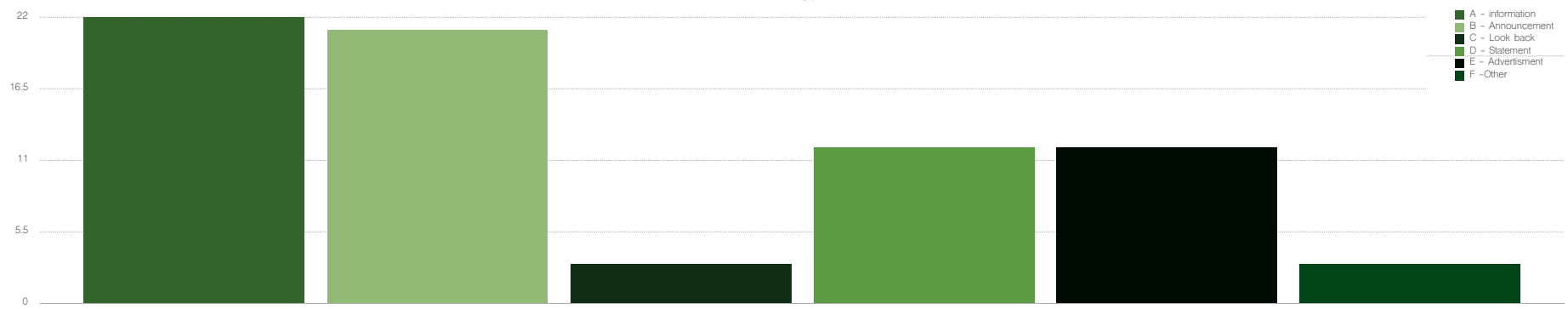

Figure: 53. High Line content of facebook posts

of American Art, a $422 million complex designed by Renzo Piano (Pogrebin 2015). The High Line itself also functions as an outdoor gallery, exhibiting works of art all year round.

The High Line offers many distinct views and photo opportunities, yet the one thing it lacks is a picture of the whole as it only exists in fragments and pieces. In contrast to other New York City landmarks like the Statue of Liberty, various skyscrapers like the Empire State Building, and even Central Park's aerial views, the green space does not have one defining depiction. The southern end at the Whitney Museum of American Art, the 10th Avenue Square, the Chelsea Market Passage, the 23rd Street Lawn, and more snippets are all facets of the collage of the park. Simultaneous to this fragmented perception, manifold images of the park are shown and shared on social media platforms by visitors every day. Writer and political activist Susan Sontag argues that 'Needing to have reality confirmed and experience enhanced by photographs is an aesthetic consumerism to which everyone is now addicted.' (Sontag 1977, 24). And indeed the photos taken by tourists seem to function as a kind of proof of visitation, witnessed by the people who like and comment without fully comprehending the experience of visiting the site itself.

In this respect, the virtual experience of the park develops its own dynamic and becomes as important in people's minds as the High Line itself. The Friends of the High Line's public relation team understands this and meticulously maintains its homepage and social media outlets. Of the four case studies it has the most followers across all three platforms studied (Facebook, Instagram, and Twitter). Its Twitter as well as Facebook account went online when the park opened for the public in June 2009, the Instagram account followed in January 2012 (Instagram is available since October 2010).

The High Line is very actively engaged across all social media platforms examined. It posts regularly on Instagram, Twitter and Facebook to an overall audience of 748,077 followers. It publishes an average of 3.4 tweets per day, a Facebook post every two days and one Instagram post per day. A further breakdown of the tweets released in June 2016 (101 in all) reveals that the park uses this medium primarily to announce events and give out general information about the park. Advertisements and statements (e.g. in favor of Pride Parade) are also an important aspect of the social media output.

07.04 – Garden Bridge
Field of Dreams

In many ways, the image of a landscape – or of anything really – is as important as the thing itself. The Garden Bridge does not yet exist and yet the masterful renderings already show it as a part of London's urban fabric. The site of this landmark was carefully chosen to enable best possible visibility of the whole project from all sides – wedged in between Waterloo and Blackfriars Bridge, the Garden Bridge will undoubtedly become a prominent photo motive for Londoners and tourists alike. However, this will likely mean that instead of relieving pedestrian traffic for Waterloo and Blackfriars, tourists will flock to these two bridges since that is where you enjoy the best view of the Garden Bridge.

Figure: 54. Rendering of the Garden Bridge

Early European landscape architecture is a result of the prevalent aristocratic society. This is especially visible in London where the Royal Parks, erstwhile reserved as a hunting ground for the Royal family, have been open to the public since 1851. They are covering about 2000 ha of land in Greater London (The Royal Parks 2017). For British people the imagery of landscape has been a fundamental part of the national identity. In the 18th century landscape painters and poets swarmed into the countryside in search of an (as of then) untouched nature, and in a way this was an attempt to see and record these parts of land that had not yet been reached by industrialization, land enclosure, and estate improvement. Wilderness was perceived as fascinating, innocent and worth protecting. As Grenier puts it '... interest in nature was almost a patriotic duty to some', and the English gentry readily heeded the call (Grenier 2005, 21). At that time, painting and engravings told people who had not – yet – visited the

Figure: 55. Photomontage of Garden Bridge summer year 1

Figure: 56. Photomontage of Garden Bridge summer year 25

depicted places of their beauty and charm and induced a desire to visit and see the landscape in person. Today, one will be hard-pressed to find a painting of the High Line or the Garden Bridge – recognizable as such – in a museum. And yet its image is broadcast to everybody with an internet connection. Where 19th century artists had to apply painting techniques to give their work a little something, now anyone with an Instagram filter can show their artistic sensibilities.

The Garden Bridge was praised from the outset as a London version of the High Line, albeit with an English touch. Within a single article on the Garden Bridge trust's website, the Garden Bridge is presented as an 'oasis', 'poetic and imaginative', 'a marriage of water, earth, and sky,' the 'stuff of dreams' and so on, drawing comparisons to the Eiffel Tower and Christopher Wren's St. Paul's Cathedral, built on an allegedly historically significant site that is also connected to Shakespeare's works (Garden Bridge Trust 2014d). This sets the stage for the whole argument – the Garden Bridge will be a part of London's DNA just as the aforementioned sights are. It invokes feelings of importance and calmness and offers an ideal scenery, peaceful and not of this time and place. By conjuring this blissful image, the structure is declared otherworldly and as something the 'brave people of London' owe to future generations living in and visiting the place, no matter the cost for Londoners now (these are either downplayed or generally seldom mentioned). Critics on the other hand are reduced to being 'killjoys', devoid of vision for the future and incapable of thinking at a larger scale (Garden Bridge Trust 2014d).

In addition to this ethereal, otherworldly vision, the Garden Bridge is also presented as a wildlife

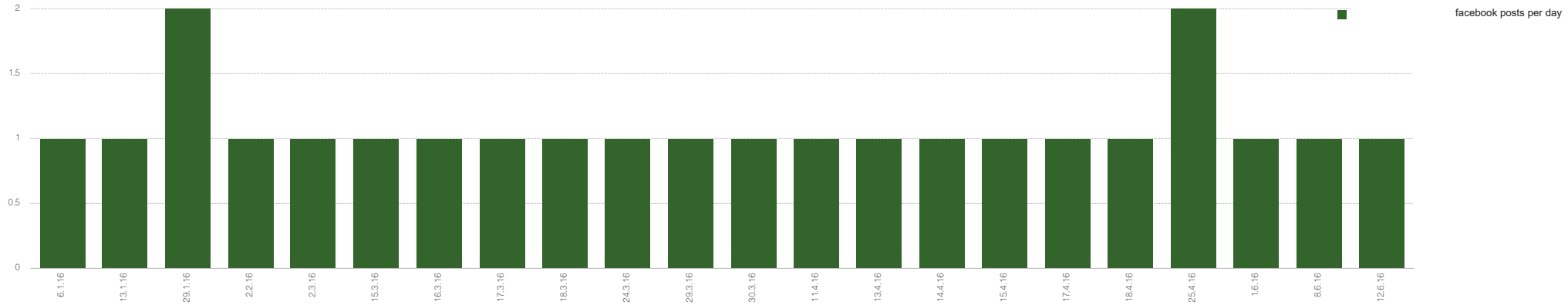

Figure: 57. Garden Bridge facebook posts per day

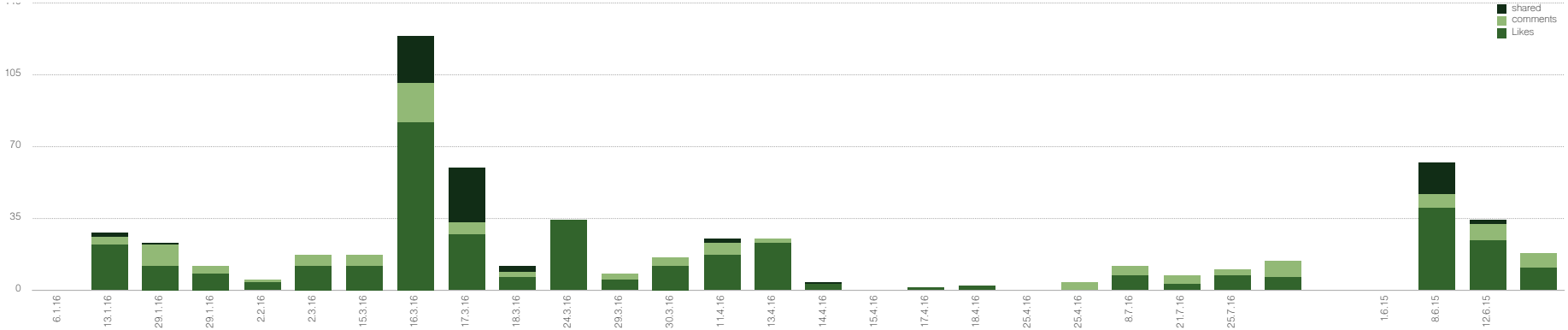

Figure: 58. Garden Bridge response to facebook posts

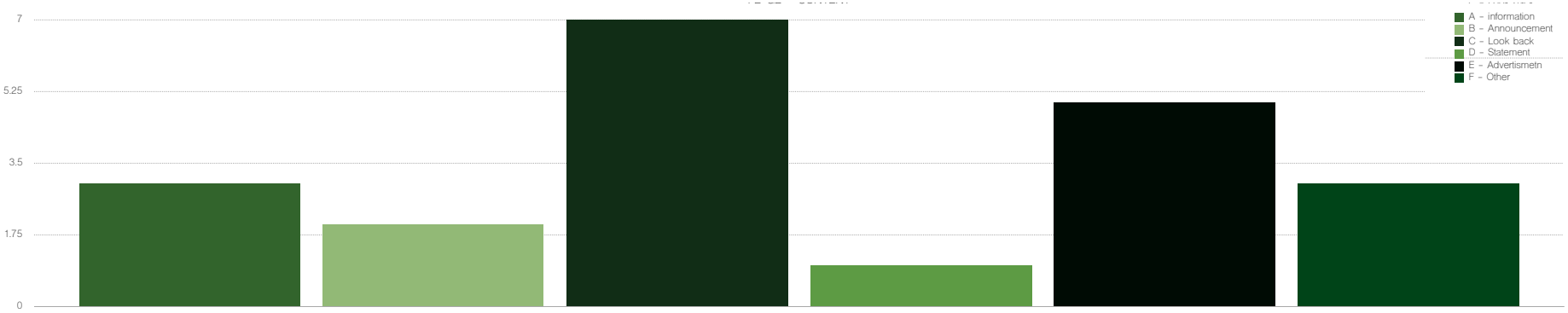

Figure: 59. Garden Bridge content of facebook posts

refuge:

> The proposed planting schemes are inspired by wild plants aimed at creating an ecologically sustainable green corridor to encourage pollination and biodiversity. (Garden Bridge Trust 2015a).

As stated before, none of these words actually have a deeper meaning, but the reader is made to believe that they do. The emotional and ethical commitment is stressed, while rational arguments are downplayed. Thus, the promotional material presents one logical conclusion: building the Garden Bridge is the only sensible thing to do.

The official planning application by the Garden Bridge Trust on the other hand is naturally more grounded in its description: 'The delivery of a new iconic landmark for central London will contribute to its world city role and is supported.' (Greater London Authority 2014e). This however is an understandable goal: cultural tourists alone spend £7.3 billion[1] a year, generating £3.2 billion[2] for the economy with 80,000 jobs depending on it (Greater London Authority 2017). The success of the scheme will most likely be measured in visitor numbers. According to estimates by the Garden Bridge Trust, 7.1 million people will visit the landmark annually (Garden Bridge Trust 2016a). Given that the bridge will be open 365 days a year (on a maximum of 12 evenings the bridge will be closed for hosting fundraising events), 18 hours a day – from 6 am to midnight – this means that on average 1,081 people will be on the bridge per hour.

The Garden Bridge joined Twitter and Facebook in October 2010, Instagram swiftly followed in November that same year. As of February 22nd 2017 it has the least followers (4,887) on all three social media platforms combined. The Garden Bridge trust has used these platforms for general announcements and information about the proj ect. Over the course of this time, on average about two tweets per day were sent out. Instagram posts were published about once every other day, and Facebook was least used with only about 85 posts in all with no posts whatsoever in June 2016. Because of this the examination time period was stretched from January to June 2016. It is remarkable that even though the park does not yet exist it already has an established social media presence, with almost 5,000 followers combined across the three platforms examined. The renderings of the bridge are added to press releases and shared on social media sites. They create the structure virtually and therefor turn the visual process on the head: These images are not a representation of reality but instead offer a promise of things to come, like a mirage of an oasis in the desert.

1 €8,823 million

2 €3,867 million

all platforms numbers as of 22.2.2017	High Line	Garden Bridge	Queen Elizabeth Olympic Park	Landschaftspark Duisburg Nord
followers total	381,584	4,887	47,133	11,615
posts total	9,309	2,176	4,693	876

Figure: 61. Social media activity overall

twitter numbers as of 22.2.2017	High Line	Garden Bridge	Queen Elizabeth Olympic Park	Landschaftspark Duisburg Nord
joined	1.6.2009	1.10.2014	1.6.2013	1.9.2010
followers	84,045	3,058	14,217	718
name	@highlinenyc	@TheGardenBridge	@noordinarypark	@landschaftspark
tweets	6,554	1,704	3,926	212
average tweets per day	2.32	1.95	2.88	0.09
average time between tweets (in hours)	10.3	12.3	8.3	267.9

Figure: 60. Twitter activity

*years not calendar years: 2013/2014, 2014/2015, 2015/16, beginning with April 1st.bubblesize = number of followers

Landscape is ultimately a product of the imagination. It exist in the physical sphere, but it is up to the spectators to perceive and interpret the individual pieces to form an image in their own minds. In the process, they create something that is more than the sum of its parts.

300 years ago Canaletto's paintings of Venice – among other places – were brought to England by travelers who had embarked on the Grand Tour. These vedutes shaped the image of Italy and Central Europe in the minds of their viewers, arguable to this day. Today, people do not have to visit Grand Houses or Museums to view iconic sceneries, a smartphone with internet access is enough. Technology makes it not only possible for a vast amount of people to see pictures, it also allows people, companies, and other entities – like parks – to create, shape, and directly share images themselves.

The parks analyzed use this tool in various ways. Queen ELizabeth Olympic Park mainly uses its social media presence to inform about upcoming events and their respective sponsors. The park was designed as a picturesque backdrop to the iconic sports facilites. Landschaftspark Duisburg Nord uses facebook primarily to announce upcoming and inform about past events. The park and its postindustrial life helped to reshape the entire Ruhr region. The High Line is the most active out of the four case studies on social media. In the observed period it released multiple posts per day, chiefly about upcoming events and for general information about the park. The park has become one of New York's main tourist attractions in real life as well as online. The recognizable design is paramount for its success. The Garden Bridge does not yet exist, but it already has a presence on various social media platforms. While the renderings which are shared online show an almost dreamlike environment, photomontages by the Garden Bridge Trust present a more realistic tone. Facebook is used to showcase sponsors of the scheme and community events that have taken place to promote the bridge.

facebook numbers as of 22.2.2017	High Line	Garden Bridge	Queen Elizabeth Olympic Park	Landschaftspark Duisburg Nord
joined	8.6.2009	10.10.2014	16.12.2012	13.5.2011
likes	168,539	1,082	29,920	10,838
name	https://www.facebook.com/highlinenyc/	https://www.facebook.com/TheGardenBridge/	https://www.facebook.com/queenelizabetholympicpark/	https://www.facebook.com/landschaftspark
posts (estimate)	1,277	85	577	655
average posts per day	0.45	0.1	0.38	0.31
average time between posts	0.4	10.0	1.3	1.6

Figure: 62. Facebook activity

instagram numbers as of 22.2.2017	High Line	Garden Bridge	Queen Elizabeth Olympic Park	Landschaftspark Duisburg Nord
joined	21.1.2012	27.11.2014	27.6.2014	9.2.2017
followers	129,000	747	2,996	59
name	@highlinenyc	@gardenbridge	@ queenelizabetholympicpark	@landschaftsparkduisburgnord
posts	1478	387	190	9
average posts per day	0.97	0.47	0.2	0.69
average time between posts (in days)	1.0	2.1	5.1	1.4
hastags (including subcategoris)	748,077	1,987	12,963	27,376

Figure: 63. Instagram activity

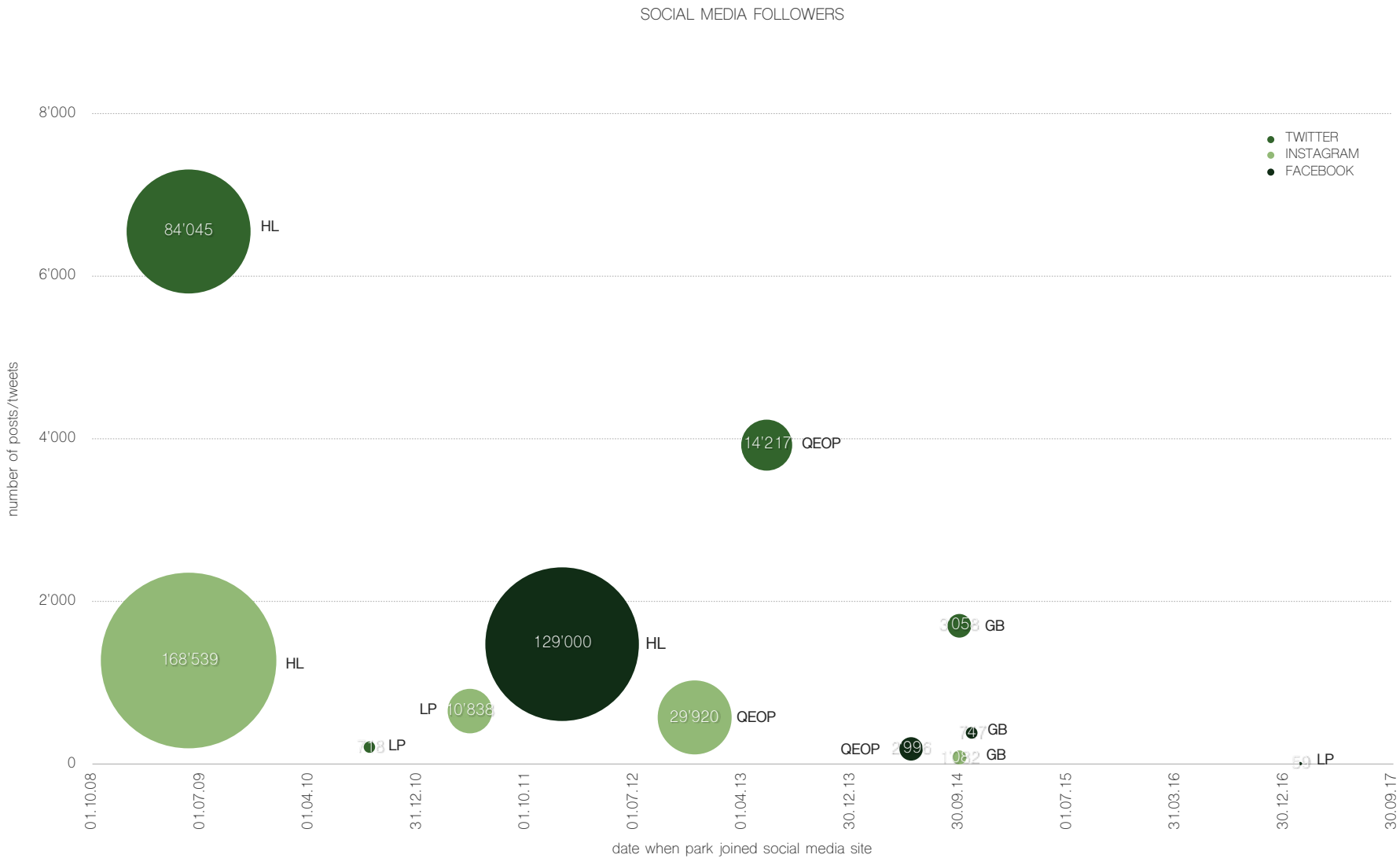

Figure: 64. Date parks joined social media platforms and numebr of followers

number of visitors per year	High Line	Garden Bridge	Queen Elizabeth Olympic Park	Landschaftspark Duisburg Nord
2009	1,000,000	–	–	700,000
2010	1,800,000	–	–	771,500
2011	3,700,000	–	–	1,059,496
2012	4,400,000	–	–	996,489
2013	4,600,000	–	4,000,000	1,000,000
2014	5,000,000	–	3,900,000	1,048,204
2015	7,600,000	–	5,100,000	945,949
2016	8,000,000	7,100,000 (estimate)	–	1,019,391

Figure: 65. Number of park visitors

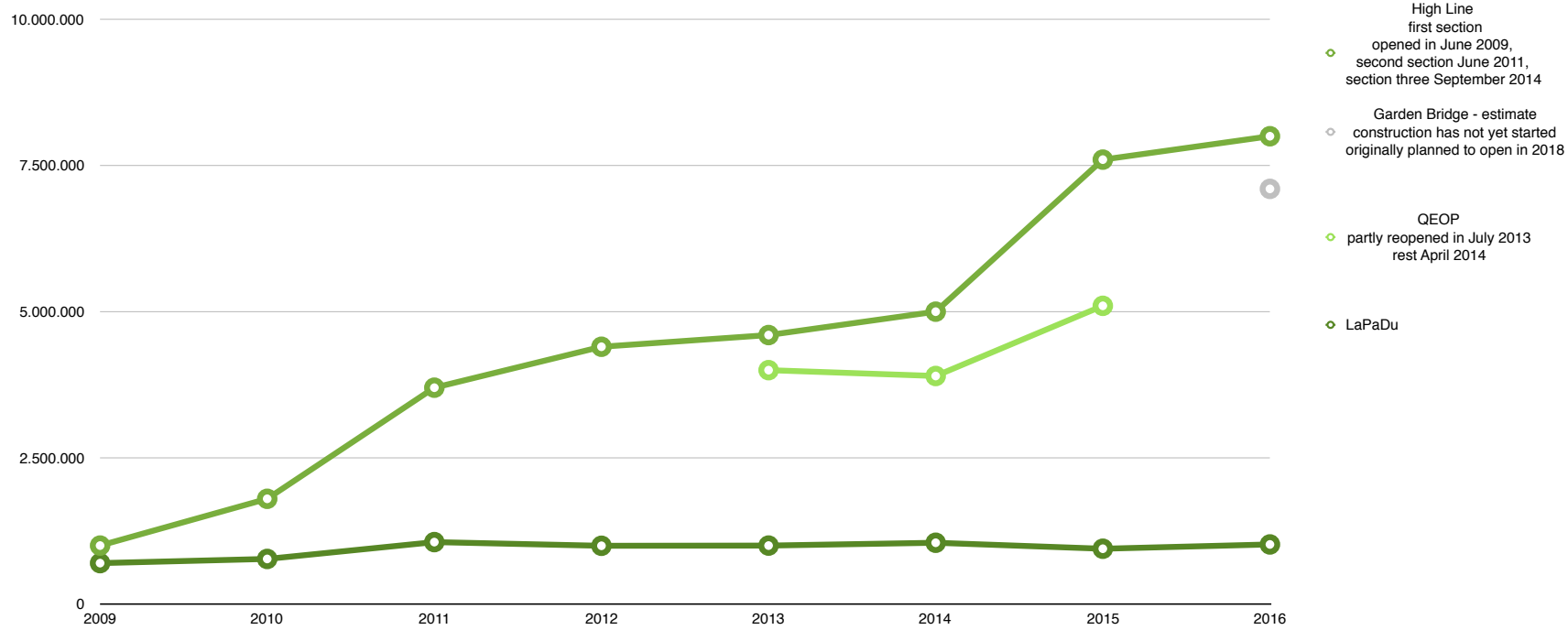

Figure: 66. Number of park visitors

Il faut cultiver notre jardin.
Voltaire, Candide

08 – GREEN UTOPIA

Even though parks as we know them today are a rather recent invention, humans have been fascinated by the relationship of nature and man for a long time. For centuries, cities have been defined by their opposition to the surrounding landscape. Nature was something uncanny, wild, and dangerous that humans needed to be protected from. The ability to tame this wilderness, to make it not just useful for survival (like fields and orchards) but also beautiful, to subject it to man's will, was not only a symbol of enormous power and strength but also privilege (Wagner 1985, 7). Green spaces have always been important to humans, something that can be observed even in early literature.

In the Judeo-Christian tradition Eden or paradise is a garden that is pleasing to the eye and good for food. However, as scripture tells us humanity was expelled from paradise and was condemned to hard work as punishment for disobeying God (Genesis 2:4b-25). The Iliad also makes numerous references to gardens, groves and plants in general. To Homer wild nature is something to be feared and not admired; flowers, trees, and shrubs are mentioned for their usefulness as food, building material, weapons, and such and not for their own sake (Forster 1936, 102). Landscapes that are intended to be beautiful show similar qualities (a meadow, a fountain, a shady grove) and communicate ideas of orderliness, symmetry, and fruitfulness to illustrate nature's subservient character to the volition of man (Forster 1936, 103). Here, tamed and arranged nature provides backdrop for man's peaceful activities, the production of

sustenance, comfort, and delight (Forster 1936, 104).

These major building blocks of European society lay out two diametral philosophies concerning man's relationship to nature: on the one hand a practical approach towards the cultivated and managed and an unattainable utopian ideal on the other. These basic attitudes have shaped the understanding of landscape for centuries. This dichotomy has always been present in the discussion of landscape, where the pastoral idyll and the wilderness are pitted against each other, indeed 'defined against each other', as Schama put it (Schama 1995, 525). Michael Pollan also remarked on this duality: ' [...] the two most important contributions America has made to the world history of landscape are the front lawn and the wilderness preserve.' (Pollan 1998). How landscape is perceived is ultimately a question as to which needs need to be fulfilled and which ideologies and philosophies are to be propagated.

Antipater of Sidon's list of 'things you have to see before you die' (now better known as the Seven Wonders of the Ancient World) names the Hanging Gardens of Babylon as one of the sights (Antipater). While the location of the other six is well known (some are still around today and therefore have been marveled at for more than 2100 years), the whereabouts of the gardens is not known today, with claims that they never existed at all. This engineering marvel would have been a unification of city and nature, a man made oasis in the midst of a relatively fertile part of the Mesopotamian desert at the Euphrates, a paradise lost; it shows that the desire to shape, control and command nature was as spirited then as it is now.

Medieval and Renaissance cities were still mainly defined by their opposition to the landscape surrounding them. Far Carnevale's idea of an ideal city for example excluded nature and wilderness in any form, celebrating the strict geometry of a man-made environment instead. By and by, the rich started to move out of the city and built ever grander houses in the countryside and in the process shaped the landscape itself. When Louis XIV built Versailles – generally considered the grandest palace of its time – he put it into the most stunning environment his gardeners and engineers could conjure, creating a completely organized refuge from the city for the nobility. Artificial lakes, waterways, and coiffured greens within perfect axes now dominated where before there was only wild forest and swampland. The park's main purpose was to be admired and to set the stage for those who want to be admired in turn. Nature here is subject to man's will, power, and wealth (Jellicoe and Jellicoe 1995, 179). The sheer size, beauty, and audacity of Versailles stuns visitors to this day and the 'Garden à la française' found many imitators all over European courts. Some elements like alleys have survived to this day, being for example a major design element of the Coulée verte René-Dumont, an elevated linear park in Paris built atop defunct railway tracks, a prototype to New York's highly celebrated High Line (Asher and Uffer 2015, 226).

By the 19th century, the strict geometry had been abandoned in favor of a more organic style; the English landscape garden with its sweeping, picturesque forms had taken over. The development from baroque order to English idyll mirrored the civil changes that swept the continent, making it not just an exercise in style but giving it a social component in turn (Wagner 1985, 8). Not only the aristocracy benefited from this new appreciation of landscape, the

emerging middle class also wanted to live closer to nature. For the working class, who could not afford private gardens or enclosed green spaces, an altogether new typology appeared: the collective environment (Jellicoe and Jellicoe 1975, 261). And thus, the public park as we know it today was born.

Industrialization led to a rural exodus that would shape our world in a hitherto unknown proportion. Cities sprawled out, slums of exorbitant density and size emerged, and living conditions for the poor were atrocious. Parks promised relieve from these dire conditions, clean air, the possibility of exercise, a prospect of improvement for body and soul. The artificial green space built by the public for the public counteracted the rampant growth tendencies and was under total human control, designed to fit the needs of many and creating an artificial environment where nature could be experienced in a protected manner (Jellicoe and Jellicoe 1975, 261).

The desire to be close to an environment untouched by man was not new – in the 18th century Jean-Jaques Rousseau had already reflected on the corruption of the civilized man due to his removal from the state of nature (Copleston 1960, 65). While Rousseau speaks mainly about the natural state of humanity itself, his disciples have often interpreted his work as a call to live close to and in harmony with nature itself.

In the poem La Mondaine, Voltaire celebrates modern times, a hedonistic lifestyle, the arts, culture and luxury, while simultaneously laughing at the idea of fleeing civilization for a simpler life at the beginning of time, calling Paris his paradise instead (Voltaire 1736). This is an outright anti-utopian sentiment: bliss does not lie in a remote future or past but instead can be found 'right here, right now' (Wagner 1985, 105). Some years later, Voltaire found happiness not at court but in his garden called Délices, which he had turned from a jardin (a pleasure garden) to a métairie (a farm), where he encountered independence and joy through work and possession (Wagner 1985, 108). Ornamental farms like the Hameau de la Reine at Versailles sprung from this exact motive.

A century later Henry David Thoreau found refuge in nature when he retreated to a simple block cabin in the woods for over two years 'to live deliberately, to front the essential facts of life [...] and not, when I came to die, discover that I had not lived.' (Thoreau 1854, 59). This social experiment of self-sufficiency and simple living was also a journey to spiritual revelation, a personal declaration of independence, and resulted in a self-help book for the hopeful eremite. *Walden* has since become a classic of American literature and 'a totem of the back-to-nature, preservationist, anti-business, civil-disobedience mindset', as John Updike concluded (Updike 2004).

These involvements with nature all stemmed from an ambition to better understand what it means to be human and to grasp human nature itself. The immersion into the natural also helped to better objectively understand society. Space is never empty but always loaded with qualities, fantasies, dreams, perceptions, and passions (Foucault 1992, 37). The great thinkers went out into the woods and found themselves. By eliminating culture and confronting varying degrees of wilderness these philosophers hoped to find meaning for life and on the way encountered a problem still unresolved to this day: Are we guided by nature or nurture? Can we control our environment or are we

governed by it? Do we enjoy nature as passive spectators who stand above animalistic instincts or can we actively shape the world that surrounds us? The search for the core of what it means to be human led back to nature itself, man's relationship with and his divorce from it.

In this respect the need to be close to nature can be understood as a way to enhance the experience of human life. The proximity to and the craving for the natural world brings us closer to our own self. Or, as Simon Schama put it: '[...] one of the most powerful yearnings is the craving to find in nature a consolation for our mortality [...]' (Schama 1995, 15). Since the industrial revolution has busted the scale of cities out of proportion and landscape for the city dweller is much harder to come by, the building of gardens and parks helps to bridge the divide.

For people living in cities today, parks, gardens, and retreats in the countryside often provide the only possibility to experience nature at all. A city with waterproof, hydrophobic, and artificial surfaces made up from rock, concrete, and stone is, by its very character, disengaged from nature (Bernatzky 1971, 46–53). Even the changing of seasons, which for millennia was the bedrock of agrarian society, is hard to perceive today in the 'normal' city. The park provides a relief from this artificial state and serves as a kind of realized utopia, a real place of otherness that is neither here nor there, a parallel to the real world of the city. It establishes a real place that is orderly, complete, different, and meticulous in opposition to our chaotic, random, and wayward real world. This duality of this opposing reality of a peaceful refuge within the real and chaotic world was described as a 'heterotopia' by Michel Foucault (Foucault 1992, 39).

The shifts in perception of the environment were also mirrored in urban planning ideas. The 20th century saw its fair share of radical approaches to designing cities, often incorporating nature on some level or other. Ebenezer Howard's low-density Garden City was a revolutionary concept to relieve living conditions for the poor, while Le Corbusier's thought experiment Ville Radieuse put towers in the park to tackle problems arising from urban pollution and Frank Lloyd Wright's car friendly Broadacre City tried to spread suburbia all over the world. But it was not until the end of the century that nature and the environment were not just seen as ornamental add-ons to a project but as a vital part of the cities' DNA.

For centuries, the rural and the urban were separate entities, defined among other things by their opposition to one another. This segregation had become even hazier in the wake of the suburbanization movements of the 20th century. A clear line between landscape and cities could no longer be drawn, as the two converged more and more. In this shifting setting, traditional urban design showed an inability to cope with the fast speed of urban change, especially with regard to the auto-based cities of North America and Western Europe (Waldheim 2010, 21). The complications arising in post-industrial cities, such as shrinking populations, vacated (and often contaminated) industrial areas, decentralization, sprawl, and many more, do not exist in a vacuum and therefor should not be regarded in isolation. The dichotomy of landscape and city, once an unshakable paradigm in the discourse, was now dissolved. Starting in the 1990s, landscape urbanism realigned the relationship of these two entities by stating that landscape was 'a lens through which to see and describe the contemporary city' (Waldheim 2006, 43). The transdisciplinary approach

of landscape urbanism represents an evolution towards collaborative educational experience and shared intelligence as a response to these increasingly complex inter- and multidisciplinary problems (Waldheim 2010, 22). Landscape urbanism rejects the opposition of nature and city (Waldheim 2006, 38). Instead of just designing with and incorporating nature, here the city's landscape itself and not the buildings in it are at the center of the design. As Bruce Mau stated, this trend of merging disciplines is not a phenomenon limited to landscape and urbanism: 'Attempting to declare the discrete boundary of any practice, where one ends and another begins, has become arbitrary and artificial ... On the contrary, the overlap is where the greatest innovation is happening' (Mau 2005, 35). The following segments take a look at how the case studies fare with this holistic approach.

08.01 – Queen Elizabeth Olympic Park
It's not easy being green

The concept of regenerative design regarding landscape and the city is not about withdrawing to an imagined rural idyll, but instead to rethink the whole city as an ecological system where city dwellers, trees, animals, energy systems, and the like are closely interlinked (Thakara 2011, 272). This approach to urban planning can be closely observed at the Queen Elizabeth Olympic Park. London's Infrastructure Plan 2050 names the area as the 'currently [...] most important single strategic regeneration initiative for London [...].' (Greater London Authority 2016a, 352). The park's landscape provides flood risk management, water storage, and cleansing. The drainage system consists of a network of detention basins, swales and green roofs, the concrete riverbanks have been removed and gave way to wildflower meadows (Greater London Authority 2015b, 16). The planting of 350,000 wetland plants along the riverbed serves as a 'haven for wildlife', promoting green solutions to river erosion (UK Department for Culture, Media & Sport 2012, 75). Similar interventions have been implemented all over London, like rain gardens to reduce stormwater flows and replacing elaborate flower beds with wildflower meadows and reed beds in various parks (Greater London Authority 2015b, 47). These endeavors are more than just aesthetic choices. They are intended as ecologically active undertakings where the landscape actively works as an element of infrastructure.

Figure: 67. Aerial Foto Queen Elizabeth Olympic Park

08.02 – Landschaftspark Duisburg Nord
Precious Memories

Just as a building is more than its structure, a park is more than solely a green space. In addition to economic repercussions and the alleviation of social problems, Crompton identifies environmental and historical stewardship as some of the main public benefis of parks and recreational services (Crompton 2000, 110). English landscape gardens in the 18th century were often built with brand new 'antique' ruins scattered on the premises to give people something to walk towards to. Maybe these constructions are evidence of what Crompton states, for they offer not only a destination but also create a sense of history.

Within the Landschaftspark Duisburg Nord ruins did not have to be artificially created. Their presence within and interference with nature are the most carefully designed elements of the park. And whereas new 'ruins' can be unsettling for being a constant reminder of what has been lost, like 'a raw wound in our consciousness [...] emphatically sublime, terrific, and incomprehensible', appreciation for their beauty can appear with time (Swaffield 2013). This is possible when the destructive event is either too far in the past for living memory to latch onto, or if a healing process has transformed the unsettling scene into something entirely else.

At LaPaDu, where the steel plant was closed only a few years before the grounds were redeveloped into a public park, time naturally has not had enough reach. Here nature works as a conciliatory power by juxtaposing the human-made ruins with the re-emerging landscape. The result is a surreal place, a distorted view of the industrial past, where decades of human labour become eradicated and swallowed by nature. The terms of city, landscape, nature, and culture have always been man-made concepts. The city has never been independent from its surrounding countryside, and even the apparent wilderness has likewise always been a cultural landscape since it was used heavily for agriculture and forestry. Peter Latz supports a strict

Figure: 68. LaPaDu Emscher canal

segregation of the terms 'nature' and 'landscape', one being designated a myth and the other representing a cultural concept. He furthermore states that man and his actions cannot be viewed separately from nature since we are as much a part of it as it is a part of us (Weilacher 1996, 130). Latz claims that all objects he creates are an examination of nature, be they made

of steel, stone, or iron. Cultivated flower beds on the other hand to him are an expression of culture, not nature (Weilacher 1996, 130).

This is contrary to the belief that man is a destroyer of nature and that our interference with ecological systems automatically means their doom. For Latz, systems should meet technical demands and at the same time hold ecological qualities (Weilacher 1996, 130).

Parks are peculiar pieces of architecture because they are never complete, which means that time itself becomes a factor in planning: landscapes are always changing and evolving. Things that have been planted a year, a decade, or a century ago are still growing and influencing what will be planted tomorrow and a lifetime from now. At LaPaDu, in addition to these considerations – which shape parks everywhere in the world – the decaying structures become another factor determining the look and feel of the park. While the structures are maintained to be safe for human use, many elements of the park are designed to further break down, like the Piazza Metallica, where 49 steel girders are ceded to the elements and will change in appearance as time goes by.

08.03 – High Line
Apocalypse Wow!

The City of New York's great open wound had little to do with its industrial past. After the destruction of the World Trade Center in Downtown Manhattan on September 11 2001 the city and its inhabitants were faced with their own vulnerability. The void in the skyline due to the loss of the iconic buildings was a constant reminder of the attack. In this atmosphere of unease and uncertainty, Sternfeld's photographs of the post-apocalyptic landscape perfectly captured the melancholy felt by many. Hammond's and David's efforts to raise awareness for the redevelopment program was well received which resulted in the securing support and funding for the High Line. Critics of the project lament the loss of the ruin and say that decaying and desolate places have a unique vulnerable allure (Tate 2015, 38).

The wilderness of the place inspired its sponsors and designers alike and soon a consensus was reached that the overgrown and unruly quality was the High Line's biggest asset. This was not an entirely new way of looking at landscape. The romance of the undisturbed American landscape has been shaped by aesthetic factors and instilled with spiritual and moral values, where undisturbed nature was considered sacred and spiritual (Pollan 1998). To alter this state verges on the sacrilegious because wilderness is seen

Figure: 69. Photo of the High Line by Joel Sternfeld 2001, compared with finished park 2015

as something made by God and is therefore perfect. Today nature serves as a quasi religion and while the concepts of ecology, greenness, and sustainability have only been defined fuzzily, they represent an ideology for many (Swyngedouw 2011, 55).

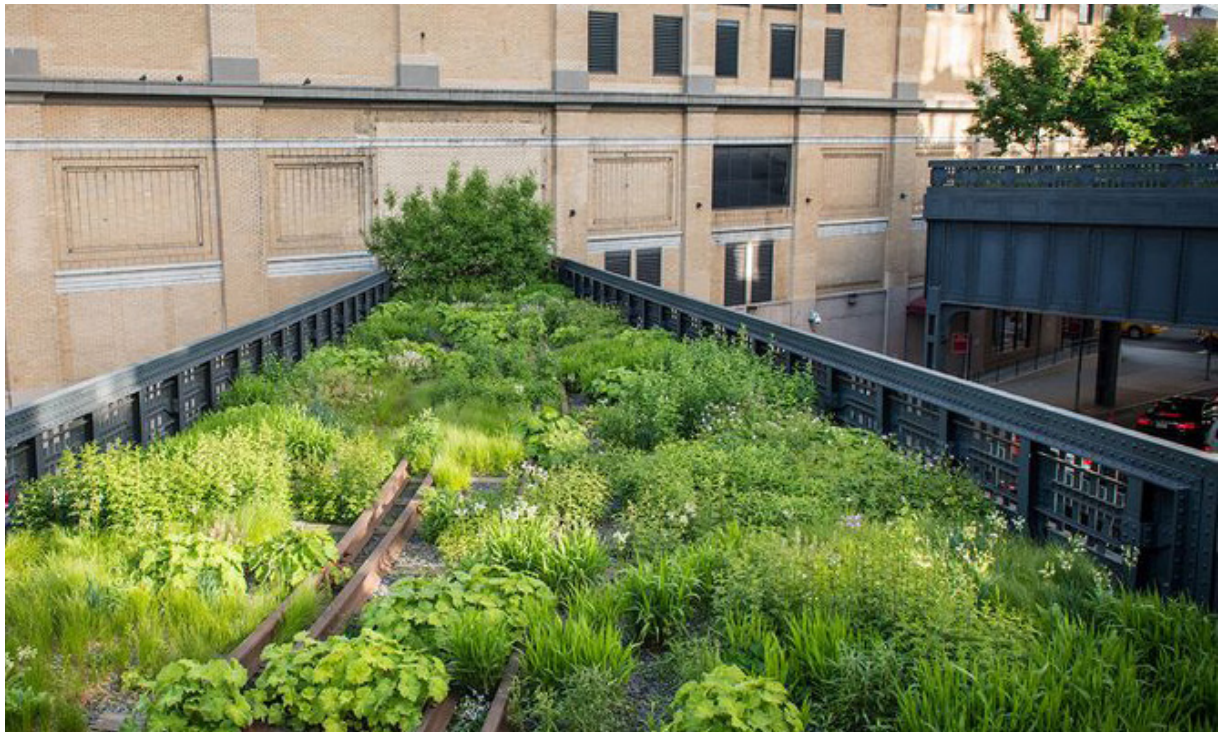

Figure: 70. Northern Spur Reserve

The plants that had taken over the railway tracks during the years of abandonment served as inspiration for the new planting. James Corner stated that the ruin being taken over by nature was one of the most powerful impressions of his first site visit (Kekseys 2015). The goal of the design was then defined as keeping the High Line 'simple, wild, quiet, and slow.' (Kekseys 2015). In addition to this, according to Elizabeth Diller the design was also informed by the 'metaphor of ruin and its association with nostalgia and dystopia [...]' (Kekseys 2015).

And yet, the planting found at the High Line today is entirely man-made. The structure was completely stripped back and cleared from rust, the lead-based paint was removed, a new drainage system was installed, and the concrete slab was repaired (Tate 2015, 37-38). Before demolition began, the site was thoroughly surveyed to determine which plants had established themselves and 161 different species were found.

Nature is often perceived as either a peaceful agrarian pastoral scene or a violent force that poses a threat to humans. These diametrically opposing points of view are equally true, and – depending on the circumstance – nature actually is consolation and menace at once. A river near a city is both a beautiful recreational area and a risk for flooding and a mountain provides both beautiful outdoorspaces and constitutes a risk for avalanches. The question which parts of nature are worth protecting and promoting, and their usefulness for humans – either as recreational spaces or as technical landscapes – is central to the nature conservation discourse (Brulle 2000, 160-161).

In the past the dangerous aspects of nature were separated from the city, a situation that led Victor Gruen to coin the term 'cityscape' to describe the built environment, whereas 'landscape' refers to places where nature is prevalent (Corner 2006, 26). Today these once contrasting concepts are blending into one

another with the city sprawling ever further into nature. The city conquers nature and creates perfectly managed green spaces for compensation that can work as pieces of green infrastructure. However, the paradox of nature being threatening and fostering at the same time still holds up. Which is why a new way of looking at the relationship between city and nature is important: as they coalesce into one another, they can no longer be viewed as separate from one another. In this regard landscape urbanism – where the city is regarded as a function of landscape – can be a useful instrument.

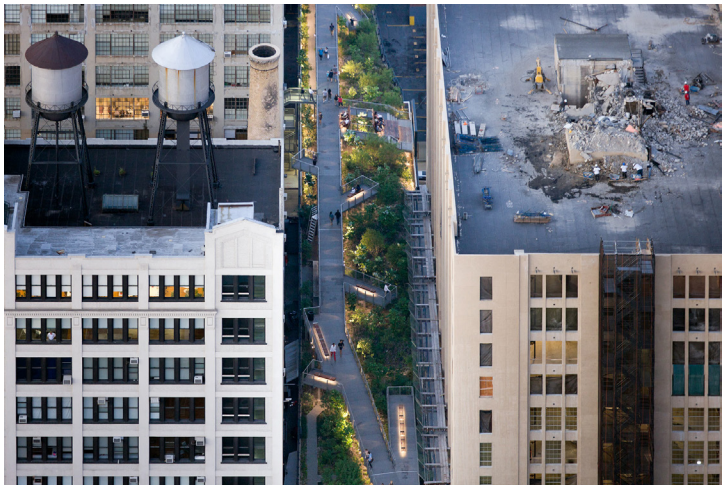

Figure: 71. Aerial photo of High Line wedged in between two buildings

The High Line is by its very nature deeply ingrained in the fabric of Manhattan and its transformation from a cargo carrier to a tourist magnet is astounding. It was purpose-built and used as a railway line, abandoned, rediscovered, saved and now serves as an attraction and catalyst for change in the area. It attempts to be more than just a park on stilts: it wants to be a link to New York's past, a truly inviting public green space, a place for events and for lone walks (at the right time of the day), a witness to the force of nature and the imagination of man, and many things more. It has inspired copycats all around the world, from cities trying to mimic its success as a honey pot to places trying to find ways to cope with their industrial past. It is an amazing feat of horticultural engineering, an educational tool for local school children and adults alike, a goldmine for property developers, and will host many more functions in the days to come. With every new building along the park however, the old New York it was desired to preserve vanishes more, the amount of green space it can provide is limited by the linear structure and the need for circulation, during corporate events the park is partially shut down for the public, and its status as one the city's busiest landmarks means that it is often overcrowded.

08.04 – Garden Bridge
Paradise City

In contrast to the other three case studies, the Garden Bridge is not a redevelopment of a former industrial site but instead a brand-new project. It uses

Figure: 72 Rendering of Garden Bridge between National Theatre and Temple Station

heretofore mainly untapped resources by building not within the dense city but on the mostly empty river. This new infrastructural intervention is meant to encourage walking and to alleviate the overcrowding on the neighbouring Waterloo Bridge (Greater London Authority 2014c, 30). Instead of building another pedestrian foot-crossing like the Millennium Bridge further down the river at the Tate Modern Gallery, here a garden has been designated to transform the structure into a landmark.

Former Mayor Boris Johnson – a strong supporter of the bridge – thus described the project as 'a bridge with no purpose other than to recreate the soul – with bosky nooks and bowery corners such as Kubla Khan might have called into being in Xanadu' (Moore 2014). Other supporters of the Garden Bridge use similar fantastical language, framing the bridge as an 'oasis of calm and beauty' and a 'floating paradise garden' (Lambert 2015, Rogers 2015). Green spaces are often perceived as an antidote to urban life, as a dreamy escape but not as an element of the city itself (Pollan 1998). The Garden Bridge is firmly part of this tradition. Its paragon the High Line on the other hand seeks to accentuate nature within the city, to show where these former opponents converge in order to create a new sense of urbanity. The Garden Bridge is a foreign object meant to attract attention and visitors.

No found wilderness serves as a template here. The planting is entirely made up of plants meant to encourage 'biodiversity', laid out in a series of landscapes (Garden Bridge Trust 2014c, 1). Its claim to be an oasis in the heart of London cannot be supported, since green spaces of similar size are scattered all around the proposed location. In addition to this, London claims to be already one of the greenest capitals in the world (Greater London Authority 2015b, 5). But green space is not synonymous with nature – gardens, parks, and even wilderness are man-made ideals and landscape itself is as much an expanse of land as it is an idea, a way of representing the world and man's relationship with it (Cosgrove 1998, 15).

The Garden Bridge would be a beautiful addition to the London landmark collection. Yet, even 2000 years ago Vitruvius stated that venustas was only one quality good architecture must exhibit, firmitas and utilitas being the other two. The engineers behind the bridge's design will make sure that it will stand solid, its usefulness on the other hand has been a matter of debate since its presentation in 2013. The bridge's supporters claim benefits for commuters and relief for the neighbouring Waterloo Bridge as a main motif for the choice of location. Its adversaries however spread doubt over this alleged practicality. One thing both sides seem to agree on is that this new piece of infrastructure will be a magnet for tourists. And this raises the question: who should cities build for – their citizens or their visitors? What is the goal – to provide a stage for the ballet of the city or an imitation of life? Do we build to create places or icons?

08.05 – Summary

The relationship between city and nature has shifted from an antagonistic to a synergetic one in the past years. The examined parks are more or less embodiments of this reevaluation. QEOP's energy consumption strategy heavily relies on natural resources and the parklands themselves. LaPaDu is a showcase for the interweaving of nature and man-made environments. The High Line demonstrates that cities are ever-evolving environments. The Garden Bridge uses nature's allure to justify the project's existence.

People must feel that the natural world is important and valuable and beautiful and wonderful and an amazement and a pleasure.
Slr Ddavid Attenborough

09 – CONCLUSION

The aim of this thesis was to show the reasons for building urban green spaces today by examining four examples of park design built since the 1990s. These were Landschaftspark Duisburg Nord, Queen Elizabeth Olympic Park and the as of yet not erected Garden Bridge in London, and the High Line in New York. While LaPaDu, QEOP, and the High Line are post industrial sites that were converted to parks, the Garden Bridge is a proposed garden on the Thames, similar in size and indeed planned as an answer to the High Line. The parks were chosen because of their similar size (GB/HL and QEOP/LaPaDu), age (all were built or planned within the past 25 years), history (HL/QEOP/LaPaDu are built on former industrial sites), and location (GB/HL are in inner city environments whereas QEOP/LaPaDu are more on the outskirts of town). The topics examined over the course of this thesis were health and well-being, contact with nature, and real estate development in the vicinity of the parks and whether these ideas are still vital for the creation of new public urban green spaces. In addition to these traditional motives, new reasons for creating parks have emerged. Chief among them are ecological concerns and sustainability (or at least the appearance thereof), the need for iconic architecture as visitor magnets, and the shifting relationship between cities – or man – and nature. By examining the case studies in terms of these factors, it became apparent that some are more important than others.

The analysis showed that health and well-being are of great concern at Queen Elizabeth Olympic Park and to a lesser ex-

tent at Landschaftspark Duisburg Nord. An abundance of sports facilities and open spaces for recreation and exercise are integral parts of the parks. However, these matters are of less importance for the High Line and the Garden Bridge, where physical activity is restricted to walking, running, and occasional group activities like Tai Chi. This is partly due to space restrictions, as these two green spaces are very small, but also because the focus for the parks simply lied elsewhere.

To be in close contact with nature has been an important factor for park design since the get-go, and it still is a driving force behind the creation of urban green spaces. In fact, the main selling point for the Garden Bridge is that it will be a green oasis in the heart of London. However, this claim does not stand up under close scrutiny, since an abundance of green spaces already exist in this area of London. This has – among other considerations – led to protests claiming that the Garden Bridge will in fact add little to London's landscape. Green space within an urban setting is one of the High Line's main allures. Even though the area is relatively small, access to nature and its clash with the surrounding city has been a vital part of the project's DNA from its conception, as it offers the promise of a piece of wilderness in a relatively dense part of West Manhattan. The landscape design for the High Line was inspired by but did not incorporate the pioneer plants found at the site since the structure had to be completely overhauled in order to make it safe for use. At QEOP nature serves as a beautiful backdrop, a connecting force for the sport- and event venues built for the Olympic Games 2012, and as a transitional device to pull various functions and styles together. At LaPaDu nature had begun to take over the former steel plant and among the main design objectives was a will to preserve the delicate balance that had been struck between nature and man-made structures.

Real estate development in the area adjoining the park was traditionally used to fund the new green space by capitalizing on the rising land value of the surrounding plots, which were sold for a profit after the parks opened for the public. The parks studied here are new developments in already rather densely populated parts of the city instead of being built on heretofore unused land on the outskirts of town. The thesis showed that of the four case studies, QEOP follows the Olmstedian model of real estate development most closely since the creation of a new quarter was part of the park's development. A town within a town with a shopping mall, educational facilities and living quarters is being built in conjunction with the new green space. At LaPaDu the most significant development adjoining the park within the past years was the creation of an IKEA store. New high-end residential developments near Temple Station used the Garden Bridge as part of their promotional materials but are financially and functionally independent from the scheme. The most significant development in concern to real estate however has taken place along the High Line, where an abundance of starchitecture projects have emerged and led to a complete overhaul of the area. However, this development was not part of the original financial strategy and in fact largely has happened not for the benefit of the park and residents of the area but private investors who recognized the value of an added green space in this part of Manhattan.

Another important aspect shown in this thesis are that ever rising concerns for sustainable development have also become a major factor for park design in recent years. The QEOP uses this fuzzily defined

concept heavily in their promotional material and has so since the project's initial proposal to the International Olympic Committee, as the sustainable redevelopment of this relatively depraved area of London was an integral part of the application as a host city for the 2012 Olympic Games. The concept also plays an important role for the High Line and the Garden Bridge, both of which are eager to stress their positive record in concern to sustainability. However, regardless their ecological record, both are used for corporate green-washing by sponsors of the respective projects who wish to alleviate their image concerning environmental issues. LaPaDu – which predates the other projects by about 20 years – on the other hand is not concerned with the concept of sustainability as a selling point.

The attraction of and interaction with visitors is important to the parks, for their success as a public space is primarily measured in visitor numbers. The High Line outperforms the other parks in this regard, being the most visited in real life – with about 8 million visitors in 2016 alone, compared to 5.1 million at QEOP and 1.2 million at LaPaDu – and also the most active on social media. QEOP uses its virtual presence for promotion of events and sponsors alike. The Garden Bridge already exists in the virtual world and is even more engaged than LaPaDu on some social media platforms. All four parks offer great photo opportunities with iconic structures and beautiful vistas. Another important factor in attracting visitors are events like open air picnics and markets, which engage people and make for strong impressions of the park.

It became evident that the relationship of city and nature is changing towards a more synergetic alliance instead of the antagonism of days past. The full integration of nature into the urban fabric, not as an ornamental afterthought but as a tool to plan the city itself is a relatively new development that has already had great influence on city planning. Like LaPaDu, the High Line was created after nature had taken over the abandoned industrial structure and in turn both created a more fluid definition of city and nature and their interaction with one another. QEOP was planned from the outset as a new quarter with nature and technology working in unison. The Garden Bridge is a park that also primarily serves as a piece of infrastructure – a bridge connecting Temple Station with the National Theatre, even though the necessity of a footbridge at this location has been called into question.

It is important to appreciate the motives behind building parks and green spaces. Even though they appear to be quite similar, the High Line has been almost universally praised from the beginning, while the Garden Bridge is a highly controversial project. To understand why one scheme succeeds while another fails is vital since the creation and expansion of green spaces is a major concern for cities today. Parks offer many services to the population and the city itself, chief among them the factors examined in this thesis and some that have not been fully or only partially discussed here. Among the remaining questions are the dangers of gentrification in the redeveloping areas adjoining the parks, how the rise of 'iconic architecture' shapes our cities, the parks' actual ecological record and benefits, the privatization of public space, and how the relationship between nature and city will develop in the future.

It was established that the main reasons for building parks are to benefit the people (health and contact with nature), to enhance the city (ecological sustain-

ability and landscape urbanism), and to make money (real estate development and tourism). These motives cannot be examined separetedly since they blend into one another. A beautifully designed park that fulfills the criteria of sustainability, which offers opportunities for sports and other recreation, helps to economically enhance the area, while simultaneously inspiring and engaging the public will be both useful and popular among visitors, real estate developers, city planners and the population of the city alike. However, building mainly for tourists and real estate developers without concern for what people actually need or want will leave a project lacking. Not truly considering ecological reasons – or only using them as window dressing – will lead to the same result. Parks today must fulfill more purposes than their 19th century counterparts.

The High Line is at the epicenter of a trend that sees many cities upcycling their infrastructure to also function as a park. While it was not the first project of its kind, it is undoubtedly the most influential. Many cities try to replicate its success, among them London with its Garden Bridge. This development is not restricted to urban planning but is also expressed in the rising interest in vertical farms and living facades. This tendency towards green design is a complex issue, balancing society‘s heightened sense for ecological concerns, financial considerations, questions of feasibility, competition among cities, designers, and clients to be at the forefront of modern day design, the redevelopment of cities, and many more. We will undoubtedly see more projects like the High Line emerge in the upcoming years, with varying motives behind their conception and varying degrees of success in their realization. If carefully implemented, parks can be a valuable addition to a city‘s landscape and an improvement for the standard of living. A project can honour a region‘s human and natural history while looking into a sustainable future and help to rejuvenate an area that was thought to be past it‘s peak. Or it can become infamous in its disregard for what people want and need in their cities, an imitation of life that is divorced from reality. Nature is often used as a cushioning tool for projects that might otherwise stir controversy. London‘s plan for the 2012 Olympic Games succeeded in part because of its reliance on nature as a tool for sustainability. Here, a spoonful of sugar helped the medicine go down, but too much of the sweet food will cause nausea and headache with little nutritional value. The relationship between man and nature is complex, beautiful, and ever evolving. Creating openly accessible recreational space within cities is important, however, there is no silver bullet, no one-for-all recipe that will guarantee their success as an urban space. The importance of sustainable design, a certain iconic quality to distinguish the green space, and considerations of urban planning are as vital today as real estate development, health issues, and contact with nature. The case studies examined showed how vital it is to find a good balance between all of these factors in order to create parks that are well-liked and most importantly much used by the public for which they are built.

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