Graduation Project Report
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Title
Eventscape -- New possibility of developing urban brownfield in central Duisburg to achieve its cultural identity

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Preface

A number of industrial cities are striving for new directions for their own development in the post-industrial age nowadays. Most of existing projects on post-industrial cities often focus more on a proper re-development of brown field -- spatially and ecologically -- while less on the urgent condition of social structure of post-industrial cities. Although a number of projects have indeed provided different kind of good public space, the question of how to achieve new identity for these cities through enhancing the social life of citizens is still under discussion. Therefore, spaces are still here for more research and interventions on the theme of re-development of post-industrial cities, especially on the aspect of social impact and cultural identity. This graduation project, together with other relative research and thesis for other courses at the same period, is part of the efforts in this broad field from a landscape architectural point of view.
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Introduction

A number of industrial cities in the world have been through changes for years towards new directions of development in order to fit themselves in the so-called post-industrial age. Although each of them will face different problems on their way of re-development, two common issues appear, inevitably, for most of these post-industrial cities: abandoned industry land and new identity of the city. These two issues represent the common condition of these post-industrial cities -- spatially, the unfriendly building environment, patched urban fabric and lack of systematic public spaces, and, socially, the uneven development of different neighborhood, poor quality of social life and lack of effective communication and interaction -- that is urgent to be changed or improved.

In Europe, especially, the necessity of changing such urgent condition is realized by more and more people. A finite area of land has stimulated compact urban fabric for the majority of cities where a good quality of social life is guaranteed by an effective system of public spaces including buildings, streets, plaza and green spaces. Compared to this traditional urban structure, the spatial composition of industrial cities is greatly defined by the need of production and distribution that always appears as constellation of industries and network of transport infrastructure, and that somehow tears apart the entity of the city and sequence of public spaces which are always crucial to the quality of social life. The whole area of the Ruhr in Germany, as one of the largest industrial corridor throughout the world, has been striving for a new direction of re-development just as other similar areas. However, what makes this area unique is the ongoing tendency of development that is not covered by individual plans but by collective cooperation of the whole area. Derived from the idea of combining all waterfront areas of the Ruhr into a huge regional natural corridor containing hundreds of public spaces for different cities, the master strategy of IBA Emscher Park is raised as a positive force to initiate the change of the area. The proposal is expected to draw a new image for this most important industry corridor in Europe, thus improving the quality of both spatial and social structure.

Among several important cities in the Ruhr area, Duisburg is chosen as the site of the graduation project in this report (for reasons, see the chapter of reflection, part II: Relationship between the theme of the studio and the subject/case study chosen within this framework). This project proposes a potential way of combining urban brownfield with social activities into a green event park near the city center of Duisburg in order to ameliorate scattered, poor connected public spaces and improve the quality of public life of Duisburg citizens. It is expected not only to help Duisburg to fulfill its aim of covering itself with a new identity of the cultural city, but also to provide a new possible approach of re-developing brownfields near central urban areas.

Following the general theme of the Landscape Architecture graduation studio, the “flowscape” is defined as the flow of people in different scenarios happening in this new event park. The relationship between nature and human system is, therefore, expected to build through the complexity of social and daily activities.
Background Information

There is no doubt that Duisburg enjoyed its booming time in the industrial era. What is brought to this city from that time could be perceived not only in economic statistics, but also in its social structure that has been deeply influenced by the system of industry. Out of this system emerged individual factories taking over large areas of the city, transport infrastructure connecting factories into a network, and numerous people migrating to this area from other places. These elements, including buildings, infrastructure and people, worked complementarily within the same social structure, leaving aside all differentiation with nationality, language and cultural background.

We could define Duisburg as a complete, unique social structure, where people with different cultural backgrounds were connected and led by a common faith named industry, working hard in crowded factories and lively harbor, and living in the inner city. However, this city has been facing a changing phase after the decline of big industry.

The population figure has continuously dropped from 542,000 to roughly 500,000 in 2007, and is predicted with a further decline to about 482,000 up to 2020.\[1\] The social structure of the city is not only influenced by population decline but also by the increasing social segregation as a result of industry decline, migration of workers, and, inevitably, geographic division by highway, railways and rivers.

The intention of benefiting industrial and economic needs has led to a special urban structure for industrial cities. Coal mining companies developed housing around the pits. Public infrastructure then followed the mines and steel works -- it served industries first, before other demands were met. This has resulted in the unattractive urban fabric for most of post-industrial cities, including Duisburg. After the big withdrawal of industry, many former industrial spots have become vacant land and buildings standing as blank area within urban fabric of Duisburg. These vacant lands are defined with different typologies, scattered throughout the whole city.

Surely the inspiring urban and social structure of the industrial age is gone, but those elements -- factories, infrastructure network and people with different nationalities -- still remain. Factories turn into vacant areas; transport network functions as normal elements carrying flowing traffic; multi-culture characteristics of people remains in those signs of shops and restaurants. Previous social area has now become blank space outside existing social structure. In a way these elements still exist -- separately -- but the original social connection for them has already gone, is it possible to re-built such a connection with a new system which could improve the condition of each element and link them together not only spatially but also socially? Based on the fact that different plans aiming at integrating social structure have already been put on the table, such as the ‘Socially Integrative City’ program and “European Culture Capital”, opportunities are already there. In this project, such possibility is practiced as an experiment from a landscape perspective, trying to re-use those blank spaces and integrate them into a socio-spatial system.
Image 02: Industrial sites and general residential building area in Duisburg

Image 03: Future population development in the city of Duisburg
Problem Statement -- Brownfield

The growth of Duisburg has followed the development of industry for quite a long time. After the withdrawal of industry, large amounts of area of former industrial land -- railway land, waterfront, mining site, quarries, etc. -- gradually became brownfields outside the urban structure. Some of these brownfields have been developed into commercial areas or post-industrial landscape for public use. These development areas are mainly located nearby inner city of Duisburg, holding the most diverse urban events in different scales. This central area, therefore, has great potential to become the central district in Duisburg to build the new cultural identity.

Although a number of brownfield in Duisburg have been developed into positive urban public spaces, the ones just near city center still remain untouched. There are, in total, three similar brownfield in this central area, located near each other along the existing railway. They are located in crucial urban territory, while being hard borders for many years, increasing social division of separated neighborhoods and blocking interaction among scattered existing public spaces. They are, in this sense, greatly urgent to be analyzed and developed. Potential relationship between social activities and brownfield is raised as a hypothetical proposal of developing vacant industrial land near Duisburg central area, which will be proved and realized in further research and design phases.
Unevenly developed neighborhoods

Urban Brownfield

Hard Border
Problem Statement -- Urban events

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Official Public Space

Unofficial Public Space

Temporary event field – Freight Station

Love Parade Music Festival
Focus & Questions

Main focus:
How to transform brownfields in Duisburg central area into an Eventscape -- series of green public space -- for diverse social activities in different scale in order to strengthen cultural identity for Duisburg?

Key words:
Brownfield, Third place, Event place, Social activity.

Sub-questions:
1. What's the current condition of urban brownfield in Duisburg? And how does it influence the urban structure of Duisburg?

2. What's the current condition of social events in Duisburg (category, distribution, quality, etc.)? What problem/problems has/have to be solved in order to achieve a better system for social events in future?

3. What's the current quality of public space system in central Duisburg area? What's the position of the project site within the context of central Duisburg? And how will Eventscape contribute to develop a better public space system in central Duisburg?

4. How to integrate mega events such as music festival and large parade into the design of event park? What issues referring to crowd safety and crowd management need to be taken in order to achieve safe mega events?

Methods for Research and Design

Research-based-design
The graduation studio of Flowscape encourages each student to develop his/her project in their own way. Methods that lead each project through research and design phase therefore might be different according to specific site condition. However, Nijhuis and Bobbink have raised three categories of methodology as potential direction for students that can guide their projects throughout the whole process. These categories are ‘research-based-design’, ‘design-based-research’, ‘design-research-based design’. This project mainly applies the first one, ‘research-based-design’, in which research is the main input for the design. As stated by Nijhuis, ‘The design is informed by specialized knowledge (quantitative and qualitative) which is delivered as building stones to the design process (...) Research is there seen as delivering the knowledge needed to create a proper design and increase its credibility.’ This method breaks down a complex problem into several sectors or themes which will be analyzed individually. Strategies that are applied are all research based techniques and will provide the input for design phase. All relative questions are raised according to urgent condition of the project site, and they will be explored and answered in research phase as the underlay information for design.

Theoretical support
Theoretical research or practical projects by former scholars -- they contribute to analyze or solve the problem that is relative to the topic of my graduation project -- will be studied and applied as academic support. In research phase, theory of “complementary places” by German architects O.M.Ungers is applied as a back-up idea to analyze scattered urban structure of Duisburg. According to Ungers, city -- specially for city in modern times -- is defined not as an entity, but as different layers of complementary places that separately represent the composite of city within the
whole complexity. Each of these inferior places defines one function or territory in its own rule, while they work together to realize the upper urban system. Such statement is the result of his years of research of urban development in Germany and Europe, therefore it is suitable for my project within the context in Germany. Following such idea, urban brownfield, third place and event space are specially analyzed as certain crucial parts in urban structure of Duisburg, from which a complementary urban system of different clusters will be completed for this city. A cluster of event will be proposed in conclusion of research as a basic concept for design phase.

Two valuable cases of event park are analyzed between research and design phases in order to conclude general method in those successful projects combining urban park with social activities. Approaches of “layer” and “scale” is concluded from these cases to lead design intervention.

In design phase, theoretical research of “Manhattan Transcript” by Bernard Tschumi is referred to to help define how to use layer and scale as design approaches. As Tschumi wrote in this book\cite{5}, “The transcripts are about a set of disjunctions among use, form, and social values. ... Disjunctions between between movements, programs, and spaces inevitably follow as each pursues a distinct logic, while their confrontations produce the most unlikely combinations. ... Only together do they define the space of ‘The Park’.” Such statement provides valuable insight that help define the “layer” and “scale” in design of event park. This will be explained further in later chapter.

**Eventscape as a specific case**
Within the methodical framework stated above, the project of “Eventscape” becomes a specific case for experimenting and designing in which generic knowledge of post-industrial landscape is applied on a specific site-- Duisburg -- as a design experiment to test the researched theory, with specialized interest on social activities. In this sense, the broad issue of redeveloping urban brownfield is explored in a specific and potential direction of “cultural”, and then is presented in the specific project in Duisburg as a possible solution. Therefore, the experiment can function as ‘proof’ on one hand and provide new insights on the other.

To this aim, the design phase in this report is organized through the scales, zooming in from a regional plan, to certain parts of the plan which are worked out into details. Through this way, all the scale levels are covered and the detailed elaborations can stand as samples for other similar parts in the project. In order to solve the problem as deeply as possible, or to say, to prove that a specific project can be regarded as a solution sample of the question that is raised here, the final productions of design are presented in different kind of drawings including diagram, plan, section, perspective sequence, etc.
Analysis -- Brownfield

History of industry and brownfield in Duisburg

The growth of Duisburg has followed the development of industry for quite a long time. The maps at right page present a brief history of the development of industry in Duisburg. In mid nineteenth century, industry firstly took place in Duisburg along the Rhien river and inner harbor supported by basic railway infrastructure system. In 1920s, industrial development reached its early blooming era in Duisburg. Seeing from the map of Duisburg of 1927, with well-developed infrastructure system, more and more factories appeared in Duisburg alongside railway, river and harbor. However, after the withdrawal of industry, large amounts of area of former industrial land gradually became brownfields outside the urban structure.
Analysis -- Brownfield

Typology of urban brownfield in Duisburg

Brownfields in Duisburg mainly cover four typologies\textsuperscript{[6]}: mining sites, waterfront sites, railway land sites, and quarry sites.

Some of these brownfields have been developed into commercial areas or post-industrial landscape for public use. These development areas are mainly located nearby inner city of Duisburg, holding the most diverse urban events in different scales. This central area, therefore, has great potential to become the central district in Duisburg to build its new cultural identity.

Although a number of brownfield in Duisburg have been developed into positive urban public spaces, the ones just near city center still remain untouched. There are, in total, three similar brownfield in this central area, located near each other along the existing railway. They are located in crucial urban territory, while being hard borders for many years, increasing social division of separated neighborhoods and blocking interaction among scattered existing public spaces. They are, in this sense, greatly urgent to be analyzed and developed. Potential relationship between social activities and brownfield is raised as a hypothetical proposal of developing vacant industrial land near Duisburg central area, which will be proved and realized in further research and design phases.
Analysis -- Brownfield

Hard borders in Duisburg central area

Railway and highway infrastructure has formed hard borders in Duisburg inner city. Increasingly appeared urban brownfields will also normally turn into spatial blockers. The connection cross these borders are merely tunnel or bridge. Brownfield on those borders strengthens such block effect, segregating urban and outskirt nature much further than physical distance. These hard borders have cut city into several parts, segregating urban public spaces in Duisburg inner city from each other. We could regards Duisburg as a successful case in terms of those new interventions of re-development of industrial area, but it still has a lack of integrated public space system -- especially a lack of cultural corridor.
Analysis -- Brownfield

Low accessibility

Connection between main public space is also weak by these bordor, even thought train line provide basic public connection. The pedestrain and cyclying rounte in Duisburg center are still not well-developed and they can't provide visitors or local citizen friendly exprience. It is hard to define Duisburg as European captial of culture from such current condition.
Unfriendly pedestrian route

Parking vs cycling route
Uneven development

Block effect from hard borders has led the uneven developments between west and east neighborhood near city center. The space in between these neighborhoods is unfriendly highway, railway and abandoned industrial lands. Therefore, citizens in these neighborhoods are not provided with high-quality communication space.

Insufficient interaction between citizens is not only obvious in their living places, but also reflected by the journey from home to working places for a lot of people. Majority of working places in Duisburg inner city exist in city center along commercial street, river and harbor. For those people who live in east neighborhood, they have to go across unsafe tunnel to reach their working places.
West Neighborhood with higher quality

East Neighborhood with lower quality
Analysis -- Brownfield

Railway site: abandoned freight station

First urban brownfield: elevated urban island. As former freight station of Duisburg, this site has received not only industrial goods, but also different seeds and plants from all over continent. This special history has led the amazing variety of plants growing on this site -- inside the freight building and outside on abandoned railway land. Plants settling in roadbed become tall trees in the years, and birds nest here. Railway tracks of freight station were demolished, and mixed heraceous are gradually covering this large abandoned field.
The freight hall is fenced, walled up and left to itself - an exciting life of its own. The nature partly recapture again. Plants settling in the roadbed become tall trees in the years, and birds nest here. The atmosphere here is one as a large greenhouse of a botanical garden.

"Such a beautiful field of flowers ... in such an ugly environment"

The railway tracks of the freight station were demolished. And mixed herbaceous plants are gradually covering this large abandoned field.

**EXISTING ECOLOGICAL QUALITY-- abandoned freight station**

- Pterocarya rhoifolia
- Fagus sylvatica
- Buddleja davidii
- Chamerion angustifolium
- Blauw parelzaad
- Parthenocissus quinquefolia
- Mos
- Humulus lupulus
Analysis -- Brwonfield

Quarry site

Second brownfield, as quarry site even for now, is relatively lack of ecological appearance due to ongoing interruption by human. However, its location in between two large green area -- ceremony and sport park -- and two lines of railway makes it a potential inclosed urban forest. At the edge of this gravel plant, mixed plants already recaptured again. Abandoned machines are rusted by natural forces.
The former gravel plant, blocked by railways, became abandoned, leaving a large area of blank field. However, at the edge of this gravel plant, mixed plants recaptured again. The machines are left behind and rusted by natural forces.
Analysis -- Brwonfield

Repair workshop

Third brownfield has kept most of its former industrial elements including buildings and railway tracks. Part of railway tracks have not been used for over 30 years, and young forest is taking place with low disturbance by human beings. Its location near outskirt forest has a strong natural influence on itself in terms of large amount of green growing there. Such characteristic lies a perfect foundation for its re-development into free-experienced exploring forest park.
The repair workshop stopped service on 2004, the quality of building still maintains well. However, the preliminary natural succession is taking place at the outdoor railway field. Meanwhile, parts of the railway tracks are already disused around 30 years. Young forest is taking place with low human disturbance.
Analysis -- Social activity

Third Place

In community building, the third place (or third space) is the social surroundings separate from the two usual social environments of home ("first place") and the workplace ("second place"). Examples of third places would be environments such as cafes, clubs or parks.[7]

Oldenburg suggests the following hallmarks of a true "third place":[8]
-- Free or inexpensive;
-- Food and drink, while not essential, are important;
-- Highly accessible: proximate for many (walking distance);
-- Involve regulars: those who habitually congregate there;
-- Welcoming and comfortable;
-- Both new friends and old should be found there.
Mental map of central district of Duisburg
Analysis -- Social activity

Event calendar

Duisburg has a lot of social events throughout the whole year. The event calendar of Duisburg 2014 is taken as a sample to research on these social events. According to the calendar, most of the events in Duisburg happen between March to November, and the month of June has the most events compared to other times in a year.
<table>
<thead>
<tr>
<th>Januar</th>
<th>Februar</th>
<th>März</th>
<th>April</th>
<th>Mai</th>
<th>Juni</th>
<th>Juli</th>
<th>August</th>
<th>September</th>
<th>Oktober</th>
<th>November</th>
<th>Dezember</th>
</tr>
</thead>
</table>

Image 04: Event calendar of Duisbug, 2014
Analysis -- Social activity

Event typology

In the book *Events Management*, event is defined as "catalysts for attracting tourists and extending their length of stay" and "increase the profile of a destination, and can be designed to attract visitors out of season" [9]. Following this definition, social event of Duisburg is categorized into two main typologies:

1. Fluid event, with a clear direction of people flow.
2. Long-stay event, within certain territory.

Each typology of event is defined further into two sub-groups according to the openness of event:

a. semi-public event, with target group of people.
b. highly open event, fully open for public use.
Analysis -- Social activity

Existing event space in Duisburg

Colorful social activities are located in different public spaces in Duisburg. Among these event spaces, there are three major areas holding diverse social activities -- Landschaftspark Duisburg-Nord, city center, and sport park. Seeing from the event map and chart at right, city center, compared to other two event places, are predominant event area in terms of the quantity of events and the number of participants.
Analysis -- Social activity

Typical event space in inner city

The city center of Duisburg contains different social activities within its fixed spatial forms. Typical event spaces in Duisburg city center are normally buildings, open spaces in between as streets and squares, and linear waterfront space at inner harbor and waterfront park.

Nonetheless, these spaces are designed for daily uses and are only capable for temporary event. The multi-functional feature will indeed benefits certain kind of highly open events such as market, but in more cases it will lead to a congestion of crowd when event confronts daily uses.
Inner Harbor
new commercial heart

City Center
public square

City Center
commercial pedestrian street
Analysis -- Social activity

Waterfront as event space

Waterfront space supports certain type of events such as boating, swimming, fishing, etc. The open spaces alongside the river could hold medium event such as market, but these events will often occupy daily use spaces and space for public transport. Therefore, these event spaces at waterfront are temporary and occasional.
Inner Harbor -- new commercial heart

Section A-A'

Commercial

Temporary event space

Commercial

Residential

Square
Urban green space
Pedestrian street
Analysis -- Social activity

Commercial street as event space

The commercial street in city center is one of the most important public space in Duisburg. The linear street and squares in different sizes form the spatial sequence here. Temporary events that take place here normally mixed with daily uses in limited areas. Large events such as big festival or outdoor concert is hardly possible to happen.
City Center -- commercial pedestrian street

Temporary event space

Section B-B'
Analysis -- Social activity

Square in neighborhood as event space

Squares or plazas in living neighborhoods (normally near church) are enclosed space, so they are able to hold long-stay event in small or medium scale. However, the surrounding residential area often need quiet environment, which will limit the types of event taking place here.
Analysis -- Social activity

Existing event space & mega event

These public space for daily use are become temporary event space, locate in commercial area or residential area. Events always confront with daily activities. Although these spaces are suitable for highly open event, but they can't be easily blocked as territory for events with target people or mega events with specific spatial need.

Programs for large urban events are complex, and they often need enough spaces to organize. Those existing major public spaces analyzed above, if compared to the complex system of large event shown on this page, are not capable to hold social activities on large scale.
Crowd management

Car Parks

Public Transportation

Entrance/Exit

Admission Ticket

Information Booth

Service Points

Food & Drink Area

Toilet

Organisers Office

Main Audience Field

Individual Entertainment Field
Analysis Conclusion

New event center in Duisburg

Three urban brownfield near Duisburg city center take the crucial position in terms of spatial, ecological and, especially, social value. Weakness of existing public space as flexible event place restrains the potential of Duisburg to become a cultural city. Therefore, first conclusion is drawn from these analysis, proposing a new event cluster on those three urban brownfield. Such a new event space will be able to hold more typologies of events in different scales and with different organizations. Together with the needs of spatial connection and ecological strip, new event center on those brownfield will be defined as an event park for citizens.

“An event is an occurrence at a given place and time; a special set of circumstances; a noteworthy occurrence.”[^10]

-- Donald Getz
Existing event space: event confronts with daily activity in city center.

New event container with diverse event spaces in Duiburg central area.
Duisburg: complementary city

As a result of former industry development, Duisburg is covered with a patched urban fabric that is different than traditional European cities. In order to conclude such urban context, a remarkable research work from O.M. Ungers is referred to as a theoretical support of the method of analysis in this project. As stated by Ungers, city is defined not as an entity, but as different layers of complementary places that separately represent the composite of city within the whole complexity. Each of these inferior places defines one function or territory in its own rule, while they work together to realize the upper urban system. In the case of Duisburg, scattered parcels of urban patches divided by those hard borders perceived as river, highway, railway and brownfield have gradually developed, separately, into different functions that hold the notion of city. These urban patches -- inner harbor, historic city center, living neighborhood, sports park, etc -- are covered with different urban programs such as commercial area, recreational area, residential area, industrial area, green area... Although scattered located, these patches present a tendency of a potential system of public spaces that covers the heart area of this city, with only two ingredients missing: a crucial patch of social event and an indispensable strip.
Analysis Conclusion

Proposal: New cultural cluster

“Rather than being a unified concept, the city is now a structure made up of ‘complementary places.’ The many contrasting areas, areas of recreation, culture, commerce, residence and work, together from a loose urban association. The modern city shaped by technology and cultural demands is made up not of a total jumble, but of a system of mutually complementary, significant places. ... Every part has its own special features, without however being complete and self-contained...is highly developed and therefore combines with other highly developed places to form a complex system, a kind of federation.” [11]

-- Dialecttic City, O. M. Ungers

Now for Duisburg the future cultural capital, the event space will become space as important as commercial residential and industrial. Brownfield become eventpark will provide diverse event space for Duisburg. Meanwhile they will dissolve the bordor become the third place for local citizen, strengthen the social connection between west and east neighborhood. The old bordor railway will be serve better for the city, bringing visitors during mega event time. A new road or bridge friendly for walking and cycling will be created in order to link the scattered public spaces, strengthening Duisburg’s new identity of European Capital of Culture.
Analysis Conclusion

New public corridor

The new event park in future on these three urban brownfield are expected to initiate a green public network to connect existing scattered public spaces and bring natural elements into unfriendly urban structure of Duisburg inner city. It will complete the sequence of public space from inner harbor at north to the ourskirt forest at south. A new corridor that is public, green and cultural.
Green public network will be introduced between inner city and outskirt nature, and meanwhile link with scattered urban public space. Urban park built on urban abandoned field will improve social interaction for citizens and become event container for colorful urban events in diverse scales.
Case study -- Westerpark, Amsterdam

In the early to mid 1990's, the site was vacant and in limbo. Slowly artists and other groups started to use the site for gatherings and studio space, creating an "underground" second life for the site. In late 1990's, it was decided that the site should be turned into a park with rental event space.

What is valuable in this project is its scenarios in different scales:

Scale L -- Indoor event using existing buildings.
Scale XL -- Large event using both buildings and open spaces.
Scale XXL -- Fully occupied event using whole site.

Both events and daily activities will coexist on the same site with good interaction.
Case study -- Park de La Villette, Paris

Layers analysis:

• Lines -- Connection throughout the park, providing a strong linear focus. Those linear elements not only connect physical pieces at one hand, but also build the "coherent logic" for people at the other.

• Points -- Matrix of Follies defined as abstract construction without meaning, functioning to organize the park and to inspire and trigger different activities. Follies are the result of destructure and restructure of programs. They are located evenly in the whole park, making those programs also evenly distributed.

• Surface -- Geometric planes with different materials including natural and artificial characteristic. Conventional landscape elements are removed, turning the "park" into a neutral space allowing for complete programmatic freedom
"The transcripts are about a set of disjunctions among use, form, and social values. ... Disjunctions between movements, programs, and spaces inevitably follow as each pursues a distinct logic, while their confrontations produce the most unlikely combinations."

"Only together do they define the architectural space of 'The Park'."

--- Manhattan Transcript
Bernard Tschumi

Design phase is led by a layering method derived from the theoretical research of "Manhattan Transcript" by Bernard Tschumi. In this research on urban realities, pieces of scenarios are destructured into three related components: program, space, and movement. In one of the final layout at right page (in black and white), each moment of reality is analyzed by those three components -- with No.1 as program, No.2 as space, and No.3 as movement.

This matrix of diagrams is analyzed in this report into two axis (in color). Axis in red represents each of those three component (program, space, movement), and axis in blue stand for a certain moment of reality, a scenario with certain theme. Although Tschumi’s work could always be understood through different ways, to my project of eventscape, the diagrams in Manhattan Transcript is valuable in its element-defined scenarios that turn the complex realities into designing interpretations.
Following the analysis of Tschumi’s work, those three elements (program, space, and movement) are applied to define the layers in the event park. According to the analysis in research phase, social events in Duisburg mainly cover two typologies: fluid event and long-stay event. Together with daily activities and large festivals, there are in total four programs of events: daily activity, fluid event, long-stay event, and mega event.

Each of these programs requires its own space in the event park. Long-stay event needs enclosed event space; fluid event needs linear event space; daily activities needs small intervention of third place and free zone; and mega event will occupy the whole site.

As for movement, the last element, event is categorized by people’s behavior, or to say, how people participate certain type of program. Long-stay event, fluid event and daily activities have different kind of movement, while mega events will cover different movements due to its diversity of sub-programs and sub-spaces.

Therefore, one group of related program, space and movement will form one layer focusing on a certain scenario of activity. In the scenario of mega event, all layers will work together.
The plan of the eventscape is composed by four layers, among which three layers represent three scenarios of events and the last layer stand for the characteristic of the site condition.

**Confetti** -- Kiosk/Freezone: Third place

**Patch** -- Event field: Long-stay event

**Strip** -- Circulation/Event bridge: Fluid event/Unplanned event

**Convas** -- Site quality

Each of these layers forms itself by its own rule but is modified by other layers. In certain moment, all layers on the whole site will work together to support mega social event such as music festival. These four layers provide the event park with variety of scenarios in which diverse social activities in different scale will take place and interact.
Confetti supports daily activities. Following the analysis of third place in research phase, layer of confetti is composed by two spatial elements in mixed networks: kiosk as indoor space and freezone as outdoor space. They will not necessarily defined the only space for daily use but rather exists as facilities scattered in the whole site in order to decorate the park, define frinedly space in small scale, serve public uses, and trigger daily activities.

Distribution of these confetti elements follows a mathematical formula:

\[ X^2 = \frac{(A-a)}{n} \]

- \( X \) represents the size of the square in each network;
- \( A \) is the size of each site;
- \( a \) stands for total area of each elements;
- \( n \) is the number of each element.

Since those three sites are covered by different features and each site contains diverse areas, these daily facilities will correspondingly appear differently according to the spots they stand. In this way, different spatial quality will be given to these elements and diversity of daily activities will be achieved.

Kiosks will cover indoor spaces for daily use. They can also become service points when mega events take place. It appears as two forms: new built space and re-use of existing buildings. In a way that existing buildings are normally bigger than basic area for kiosk, those re-used buildings will be developed into multi-function indoor spaces.

Free zones will provide flexible outdoor third place for citizens. Movable elements will function like furniture in order to give people the sense of "home in home".
Kiosk (Approx. 50 persons)
Event building (Approx. 20 persons)
Layer -- Strip

Strip will function as basic connection for the whole site. It also extends at certain points to meet city road in order to create more entrance for people and to connect existing urban public space. Components as follows:

1 -- event bridge for three sites, following rail track from history. Focus on medium-speed experience from walking and cycling. It also provides free spaces for unplanned events.
2 -- route in each site, with different features.

Meanwhile, strip will also support fluid events such as marathon and parade. It will become part of the whole route for those events.
Layer -- Patch

The layer of patch will support long-stay events such as market and exhibition. Two kinds of event space -- outdoor event field and indoor event space -- are provided to fulfill different requires from different event groups.

Distribution of these long-stay events (or event spaces) follows several basic principles:
1. highly open events will happen nearby main circulation;
2. semi-open or semi-private events could occupy indoor event space or event fields that are well-enclosed or away from the main route;
3. indoor event space is designed in corporate with existing buildings, so their location will on the spots of these buildings.

Besides, those outdoor event fields apply circular shape as their common spatial form, but the size of each circle is different. This will be explained further in the comming pages.
Layer -- Patch

Define the shape

To apply circle as the spatial form for long-stay event in the layer of patch is the result from both observation and theoretical research of people’s behavior when participating different social activities.

The observation photos at left page have shown that the shape of circle as a gathering shape is formed by people spontaneously no matter in small events such as street art or in mega event such as music festival. This spatial form always makes best use of space, and it will imput sense of territory in people's mind. What's more, the circle form makes it easier for people to join or leave the ongoing event.

The behavior maps[^13] on right page show the research of people's behavior in long-stay activities within a certain place. By using GIS technology, the occupancy of activity, relationship between shape and size, and cumulative intensity of space for long-stay uses are presented, which has shown that most of long-stay activities will form a roughly circular shape space.

[^13]: Image 08: Group Behavior 1

Image 09: Group Behavior 2

Image 10: Group Behavior 3

Image 11: Group Behavior 5
the spatial-temporal involvement of activity and activity and their intensity of use, the nature of use, participation of users engaged in any one what can be presented are the values of rates of distribution of already carried out uses in the given spatial characteristics of places. The morning/early afternoon situation and the late shows information about filling up places. The generally, afternoons are the busiest parts of Figure 8:

"Image 12: Occupancy of activities (in dots)"

although the upper line of two steps in the setting least 20 m in diameter. Thus, in Trg Republike, requires some more space to hand before the frequently used parts. However, this certain articulation has stimulated its users to be there and to use it.

"Image 13: Relationship between size and shape by long-stay active uses"

A preparation for such 'jump-slide' actions and provides a variety of different information through the observation. A GIS application upon this elucidates different aspects of this basic information recorded through the edge directly reflect the information recorded for their pastime. However, this certain articulation can contain information such as how often a certain activity has happened, how intensively it limits are further apart, and in which the parks, which are larger and where the physical 2002; Franck and Stevens, 2007), especially so-called loose-fit landscapes (Ward Thompson, 2002; Franck and Stevens, 2007), especially potentials of patterns of occupancies of places. Activities, especially those significant for their importance may provide crucial clues about necessary needed supplementary spaces for their overall comfortable co-habitation

"Image 14: Cumulative intensity of spatial occupancy by long-stay uses"

Discussion

they refer to the effective distribution and cohabitation of empirical knowledge in design. A sys-

tation in itself does not ensure optimal use. The size, for their pastime. However, this certain articula-
tion and provides a variety of different information through the observation. A GIS application upon this elucidates different aspects of this basic information recorded through the edge directly reflect the information recorded for their pastime. However, this certain articulation can contain information such as how often a certain activity has happened, how intensively it limits are further apart, and in which the parks, which are larger and where the physical 2002; Franck and Stevens, 2007), especially so-called loose-fit landscapes (Ward Thompson, 2002; Franck and Stevens, 2007), especially potentials of patterns of occupancies of places. Activities, especially those significant for their importance may provide crucial clues about necessary needed supplementary spaces for their overall comfortable co-habitation

"Image 14: Cumulative intensity of spatial occupancy by long-stay uses"

This visualisation (Figure 9) shows that, An illustration of different types of voids between uses and between them and physical environment. A speculation on

A ramp, low wall and staircases, which define the middle of the step, the necessary full length of the steps. The 'sliding event' most likely takes about 5 m, or more. As this 5 m space occupies the for a partial travelling on a 'potential' circular journey. It would suggest at least about 3 m space is usually not available.

The dimensions of the examined steps most like (Ljubljana) was planned as a skateboarders'

Worpole, 2000; Hajer and Rijendorp, 2001; Ward 2002; Franck and Stevens, 2007), especially so-called loose-fit landscapes (Ward Thompson, 2002; Franck and Stevens, 2007), especially potentials of patterns of occupancies of places. Activities, especially those significant for their importance may provide crucial clues about necessary needed supplementary spaces for their overall comfortable co-habitation

"Image 14: Cumulative intensity of spatial occupancy by long-stay uses"
Layer -- Patch

Define the size

The size of outdoor event space on site is defined by two aspects: average number of participants in typical events, and critical density\textsuperscript{[14]} of people within a territory.

According to previous research of existing events in Duisburg inner city, long-stay events in different scales have different average number of participants: 1000 people, 2000 people, 5000 people, and 20,000 people. In mega events such as music festival, the number of people in the audience area could reach a maximum of around 70,000 people.

Critical density represents a standard statistic that will help to value the crowd safety. According to the research chart on crowd density and flow rate\textsuperscript{[15]} (right page), the density of 2 people per m\textsuperscript{2} can guarantee safety during mega event without disturbing effective use of space.
Image 15: Crowd density & crowd flow rate

Image 16: Safe and unsafe crowd density

Crowd density (2pm² and 5pm²)

2 People per square metre
Crowd can move freely

5 people per square metre
Crowd cannot move freely
Layer -- Convas

Layer of canvases exists as underlay condition of event park. It derives from the existing ecological condition and the natural process on site:

-- The first site has a diversity of plants including native and exotic plants.
-- The second site has large area of naked land and is partly covered with grass.
-- The third site has been abandoned for over 30 years, therefore it has already at the stage of young forest.

Under such condition of the sites, three main strategies are applied in the layer of canvases:

1. Reserve -- to keep the exotic plants on first and third site in order to keep their diversity.
2. Maintain -- to maintain the existing trees and young forest to form a green environment.
3. Intervene -- to plant native trees and plants on sites (especially on 2nd site) to help proceed the natural process.

With these strategies, the whole event park will grow into a natural green corridor that contributes to different areas of the city.
General strategy to re-develop urban brownfield on site

Urban green space and boulevard are the main types of existing green space in Duisburg inner city. In order to cooperate with these existing spaces and build the green public network for this area, those abandoned site needs to be re-developed. The abandoned space on site covers three typologies: abandoned building, abandoned field, and abandoned field with railway tracks. General strategy proposed in eventpark of re-development is to combine nature, culture and history together. More green will be introduced on abandoned field; diverse urban events will take place at different spots; valuable historical remains such as buildings and railway tracks will be kept and re-used to hold the story and characteristic of the site.

Through this way, abandoned space will be developed into diverse public spaces:

Abandoned building into indoor botanical garden and indoor event space;
Abandoned field into diverse green, outdoor event field and farm/garden;
Abandoned field covered by railway into outdoor event field and explore forest.
**MAIN STRATEGY**

- Introduce native plants to create diversity of nature
- Explore forest
Perspective: Entrance bridge

Section: Entrance bridge
Event & Daily activity

Urban events and daily activities will fit themselves in different given spaces. They could happen at the same time without interrupting each other; rather, they are expected to interact to stimulate diverse activities.
Event: Music festival

Daily activities
Break the hard border

Entrance with slope and green will be created at the joining point of event park and tunnel. Through opening the spaces, previous unfriendly hard border will be dissolved. The memorial space for the Love Parade 2010 will be kept to memorize the story of the site.
Diversity out of a certain space

The water space on first site will trigger diverse social activities by its different appearances. In summer time, it appears as a water space for people to relax; in winter time, it will turn into a skating space for people to play around.
From quarry to green nurse bed

The former quarry land on the second site will be introduced with native plants to initiate the green space. This area are expected to become a green land with diversity of plants. It will also function as a green nurse bed from which grown trees will be moved to other sites if necessary.
Now: The quarry site is merely covered by plants

Stage 1: Plant native trees

Stage 2: Years later, trees will get dense, some trees will be moved to other event park

Stage 3: Event field will be created, the site is full with mixed vegetation
Explore the nature

Young forest on the third site will be kept and low maintained. It will keep growing in future. The abandoned railway tracks in the forest will be re-developed into pedestrian path for citizens to explore the beauty of a combination of industrial remainings and natural environment.
Re-develop an old bunker into event space
Up image: Re-develop former building into enclosed garden

Right image: self-grown exotic plants in the enclosed garden

Section G-G
Up image: Re-develop former building into indoor event space
Down image: free zone as space for daily use
Scenario: Mega event

In mega event, all the layers will work together in order to support the complex programs, spaces and movements. Seeing from the diagram at right (1st site as a sample of music festival), patch will become progam spaces, strip will function as main curculation, and confetti will work as service points.

Group of sections at right page shows the spatial sequence in mega event by participants.
1. Enter the park, see linear garden...

2. Follow the main road between the buildings...

3. A slope lead me to the main event field, time for music, ahaha...

4. Find a kiosk just in this event field, cool...

5. Then, cross over the tunnel to southern part of this park...

6. See a slope on next site, this is an emergency exit for large festival use!!

7. Another building with restaurant, time for food...

8. Wooden road over water...

9. Water square --- party zone during music festival

10. An 'island' where party animal can gathering
Even though the 1st site is occupied by mega event, the bridge is still available for daily use. Citizen could go to other parts of the eventpark through the bridge. Images at right show the perception of walking in different sites.
When the event park is fully occupied by large festival, the bridge is still available for daily use...

1. Entrance of the bridge, street artists perform here

2. Kiosk on slope...

3. Follow the waterfront route to third park...

4. Enjoy the view from forest...

5. Bunker in the event field...

6. Garden created by raily tracks...

Then, walk 5 min to Wedau Train Station, and take train to home :)'
Develop process -- Stage 1

2015 -- 2020

Event bridge will be firstly built as basic connection between inner city and outskirt nature. This bridge will also let citizens witness the change of the whole event park in every construction phase. In the meanwhile, native plants will be introduced on quarry land (site 2) in order to initiate green space.
Develop process -- Stage 2

2020-2025

First site will be developed at second stage. Hard borders between inner city neighborhoods will be dissolved and general sequence of urban public spaces in central area will be complete. Some trees grown on second site at first stage will be moved to first site now.
Develop process -- Stage 3

2025 -- 2030

Third site will be developed at this stage. More indoor and outdoor event spaces will be built. All the plants introduced at first stage will continuously grow. By then, the new public green corridor for Duisburg inner city is almost built.
Develop process -- Stage 4

2030-2032

Quarry site will be developed into yong forest when former stages are finished. Whole event park will be complete then to serve the city.
I. Motivation and Relevance

A number of industrial cities are striving for new directions for their own development in the post-industrial age nowadays. Two common problems are inevitably there for most of these post-industrial cities: one is how to re-develop the huge amount of area of land remaining from booming industry in history while somehow existing as blank spots within urban fabric at present, and the other is how to achieve a new identity for city -- at least for inner city area -- in order to provide citizens and people from outside a positive image of urban environment. Essence of these two problems is the need of enhancing both the quality of spatial environment of city and the quality of social life of citizens. Such need for a social-spatial development is, generally speaking, an urgent condition for most of these post-industrial cities.

There are various efforts -- in different scales -- trying to solve at least one of the problems stated above. Most of these projects often focus more on a proper re-development of brown field -- spatially and ecologically -- while less on the urgent condition of social structure of post-industrial cities. Although a number of projects have indeed provided different kind of good public space, the question of how to achieve new identity for these cities through enhancing the social life of citizens is still under discussion. Therefore, spaces are still here for more research and interventions on the theme of re-development of post-industrial cities, especially on the aspect of social impact and cultural identity. This graduation project, together with other relative research and thesis for other courses at the same period, is part of the efforts in this broad field from a landscape architectural point of view.

II. Relationship between the theme of the studio and the subject/case study chosen within this framework (location/object).

General theme of Landscape Architecture graduation studio Flowscapes is to define landscape as a form of infrastructure:

“The studio explores infrastructure as a type of landscape and landscape as a type of infrastructure, and is focused on landscape architectonic design of transportation, green, and water infrastructures. These landscape infrastructures are considered armatures for urban and rural development. With movement and flows at the core, these landscape infrastructures facilitate aesthetic, functional, social and ecological relationships between natural and human systems.”

(Nijhuis, Jauslin, & De Vires, 2013, p. 1)

The studio provides a broad framework around the themes of flow, movement, landscape and infrastructure. Varies potential areas with distinct characteristic and different problems are provided for students to choose according to their own interests. The chosen area for this project is Duisburg in Germany, one of the most struggling post-industrial cities in Ruhr area. Reason for this city as the project site are as follows:

Firstly, as one of the most crucial industrial territory in history with its great geographic advantage as the crossing point of different transport infrastructure, Duisburg is at present correspondingly suffered a lot from the influence of its previous industrial development throughout the whole city. Therefore, this city is valuable for research and design projects focusing on redevelopment of post-industrial cities.
Secondly, a number of efforts are already there in Duisburg to help this city, including the Landschaftspark Duisburg-Nord, Innerhafen redevelopment, and Rhein Park. However, these efforts mainly covered some certain types of vacant industrial land -- waterfront site and mining site, while leaving other main typologies -- railway land site and quarry site -- untouched. It is significant to include these untouched brown field into the big plan in order to draw a new image of the city.

Thirdly, Duisburg has been gradually developed in a relatively clear direction with a new identity of cultural city. It was one of the most important five cities of the European Capital of Culture RUHR.2010. Sadly, the big music festival held in Duisburg in the same year ended into an astonishing tragedy of 21 people dead and hundreds injured. Such tragedy has raised us a condition that Duisburg is lack of a proper public space to hold large social events, and such a large public space for different social events is no doubt crucial for Duisburg to achieve its new identity as a cultural city.

Following the statement above, this graduation project proposes to create a large, green public space -- a eventscape -- in Duisburg to help its ambition as a new cultural capital in Germany. Under such proposal, the “flowscape” is defined as the flow of people in different scenarios happening in this new event park. The relationship between nature and human system is, therefore, expected to build through the complexity of social and daily activities.

III. Relationship between research and design

In a way that the project is defined as eventscape on urban brownfield, the research before design phases needs two main directions: one is the research of “event”, including social and daily activities, public spaces, and how people interact in these activities, the other is a complementary research on brownfield and industry in order to provide enough historic and ecological information for further design. To this aim, the urban condition of inner Duisburg is analyzed into a coexisting and cooperating system. The idea of “complementary city” by O. M. Ungers is the theoretical support of such systematic urban analysis.

“The city is now a structure made up of ‘complementary places’ that can be divided in different places, areas, recreation, culture, commerce, residence and work, that together and with a good connections from the city... That every individual part of the city have its own special features, without being complete by themselves, always need the others.” (O. M. Ungers, 1999)

Through such research, inner city of Duisburg is defined as a system of patches due to its scattered urban fabric from former industry time. These system characterizes Duisburg as a series of programmatic patches -- including commercial cluster, heritage cluster, sport cluster, etc. -- connected by infrastructure system, in which the patch of culture, or to say the patch of social events, is missing. Such a culture patch is crucial not only because of its program in its own, but also due to its ability to provide this city a culture corridor that will link most of important existing patches. Further research of urban event and urban brownfield is taken in order to pinpoint the location of such event patch and to find the programs and scales of these programs in such event patch. These pieces
of research together provide a big context for the project, thus composing the underlay system for further design of the eventscape.

IV. Relationship between the methodical line of approach of the studio and the method chosen by the student in this framework.

The methodical line of approach of the graduation studio might differs according specific project by each student. In general, students are encouraged to develop their own methodology within the Flowscapes studio and build it following distinct characteristics of their projects. Two courses are provided to help students with their methodical line of approach -- AR3LA020: Research Methodology in Landscape Architecture, and AR3LA030: Design with Ecological Processes.

Basic steps that lead the project from starting point, through research and analysis, into finalization of design, follow the general framework of the studio: fascination, problem statement, research question, aim of project, context analysis, diagnosis, case study, design proposal, methods of design, finalization of design, etc. Such ideal order of research and design is sometimes inevitably hard to keep due to certain phase in which design and research always overlap with each other. However, looking backwards from this moment, several breakthroughs within the graduation project still compose a relatively clear logic and methodical line.

Two main methods are applied in this project: anatomy as the way to analyze urban context, and layering as method to lead design. These two methods are separately used for research and design phase, while under a same idea of layering, destructuring and restructuring. Two pieces of academic research are important as theoretical support for these methods -- “complementary city” from O. M. Ungers and “Manhattan Transcripts” from B. Tschumi. These remarkable works provides broad horizon of regarding city as a spatial and social complexity and entity, which are of great significance for this eventscape project.

V. Relationship between the project and wider social context.

How to re-develop post-industrial cities are a common question throughout the whole world in the general condition at present. In Europe, especially, logic between compact urban fabric and sequence of public spaces are missing in most of post-industrial cities. Such relatively low quality of public space system has led to separation within social structure and lack of social cohesion. What’s more, large amount area of abandoned land left from industry era has brought great difficulty in terms of building a environmental friendly spatial system in larger scale. Recently an ambient proposal of IBA Emscher Park is raised as a valuable plan to re-develop water front brownfield in Ruhr area in Germany into a green network for people (see Figure 1). Such ambition successfully drew a new image for this most important industry corridor in Europe, while somehow will not be realized easily without cooperation at local scale. Therefore, this project would support the big plan of Emscher Park in Ruhr area, as an important part in the whole ambition.

VI. Appendix


Note and reference

[1]. Cite from GAT Magazine September, October 2013, p. 36


[3]. Ibid.


[15]. Ibid.