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Large Parks as a Concept for Contemporary Urban Landscape Planning

A Cross-cultural Study on Theories and Practices of Large-scale Parks in North America, Germany, and China

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Abstract

A new park model called *large parks* was developed in the field of landscape architecture in North America in the 1990s. The concept was initiated by North American professionals, James Corner, Julia Czerniak, George Hargreaves, and others. The model of *large parks*, which is influenced by Ian McHarg's "Design with Nature" (1969) and J. B. Jackson's conceptual understanding of landscape (1984), oversteps the functional and spatial boundaries of the classic and ideal 'static' 19th park model. The *large parks* model, which is a design concept of ecological processes in urban landscapes, is an implementation of the *landscape urbanism* program like its protagonists into practice.

The North American organic model of *large parks*, a large-scale landscape architectural concept for urban landscapes, is parallel with the German model of likewise large - here so called *structuralistic parks* and the Chinese model of *country parks*. Comparative analyses of these parks draw conclusions about dynamic contemporary and cultural conditions in terms of urban spatial structure, society, and ecology and potentials in the theoretical and practical developments in international landscape architecture.

Two methodological approaches are employed in the research and practice of contemporary landscape architecture: James Corner's *critical thinking* for process-ecological methods and Peter Latz's here so called *critical structuralism* for context-syntactical methods. Both approaches are based on the paradigm of *critical rationalism* (Popper 1957), which has played a significant role in western planning cultures since the late 1960s.

The park model of Corner focuses on designs from *cultural imagination*, whereas Latz emphasizes structures bases on cultural contextualization. Both concepts developed from the social uses and ecological function of large-scale urban parks and are primarily focused on regional cultural identities and ecological balancing effects. These concepts are evident in all projects and theories in terms of complexity, diversity, sustainability, appropriation, and identity.

The practical and theoretical conditions of the park models are analyzed for comparison in the current study. Practical considerations pertain to selected design projects, and theoretical considerations focus on the urbanistic concepts of *urban landscape* in North America, *careful renewal* or *critical reconstruction* of European cities, and *regional landscape development* in Germany.

The analytical results of the two models are adopted in the examination of the landscape architectural park models and urbanistic theoretical frameworks in China. The current Chinese urban landscapes of *country parks* are investigated in this context in terms of similarities and differences. Thus, international park models can influence various

socio-cultural, ecological, and aesthetic developments.

Studies on landscape architectural theories and schools of the North American *landscape urbanism* and German landscape architectural *structuralism* as well as their two large-scale park models reveal remarkable similarities and differences between the two cultures in terms of their understanding of landscapes (coherent vs. creative), landscape and ecology (representation vs. metaphor), and landscape and life (diversity vs. unpredictability). These analytical results are conceptualized as cultural interpretations, which are adopted to rethink the third cultural model of the Chinese *country parks*.

Zusammenfassung

In den 1990er Jahren kam in der Landschaftsarchitektur in Nordamerika ein neues Parkmodell auf, das als *large parks* bezeichnet wird. Das Modell wurde von nordamerikanischen Experten initiiert, wie James Corner, Julia Czerniak, George Hargreaves und anderen. Es ist von Ian McHargs „Design with Nature" (1969) sowie dem konzeptionellen Landschaftsbegriff J. B. Jacksons (1984) beeinflusst. Indem *large parks* die funktionalen und räumlichen Grenzen des klassischen Ideals ‚statischer' Park-Modelle aus dem 19. Jahrhundert überschreiten, sind sie als Design-Konzept ökologischer Prozesse in Stadtlandschaften eine Implementierung des von denselben Protagonisten vertretenen Programms *landscape urbanism* in die Praxis.

Diesem nordamerikanischen organischen Modell großräumiger landschaftsarchitektonischer Konzepte für urbane Landschaften stehen zur gleichen Zeit in Deutschland mit ebenfalls großräumigen, in dieser Arbeit als 'strukturalistisch' bezeichnete Parks und in China mit den *country parks* zwei andere Parkmodelle gegenüber. Ihre vergleichende Untersuchung erlaubt Rückschlüsse auf zeitgenössische und kulturelle Veränderungen in Bezug auf urbane räumliche Strukturen, Gesellschaft und Ökologie, aber auch auf weitere Potenziale in der Entwicklung internationaler landschaftsarchitektonischer Theorie und Praxis.

Dies wird hier unter Einsatz von zwei, mit den Untersuchungsgegenständen verbundenen, methodischen Ansätzen unternommen, die sowohl in Forschung wie Praxis zeitgenössischer Landschaftsarchitektur bekannt sind: James Corners *critical thinking* als prozess-ökologische Methode - und Peter Latz' als *kritischer Strukturalismus* zu kontext-syntaktische Methode. Beide lassen sich als Referenzen eines Paradigmas des *kritischen Rationalismus* (Popper 1957) beschreiben, der in westlichen Planungskulturen seit Ende der 1960er Jahre eine wesentliche Rolle spielt.

Während das Parkmodell Corners nämlich auf Gestaltungen abzielt, die aus einer kulturellen Vorstellungskraft heraus entstehen, zielt Latz' auf Strukturen, die aus einer kulturellen Kontextualisierung basieren. Aus beiden Modellen aber entwickeln sich gleichermaßen soziale Nutzungen wie ökologische Funktionen der großräumigen, urbanen Parke, beide zielen vor allem auf regionale kulturelle Identitäten und auf ökologische Ausgleichswirkungen. Dies lässt sich anhand der in allen Projekten und Theorien aufscheinenden fünf Metaqualitäten Komplexität, Vielfalt, Nachhaltigkeit, Aneignung und Identität belegen.

Um die Parkmodelle angemessen vergleichen zu können, werden jeweils sowohl ihre praktischen, als auch theoretischen Rahmenbedingungen analysiert. In der Praxis betrifft dies das Design ausgewählter Projekte, auf der Theorieebene sind dies die urbanistischen Konzepte des *urban landscape* in Nordamerika, der 'behutsamen Erneuerung' bzw.

'kritischen Rekonstruktion' der Europäischen Stadt und der regionalen Landschaftsentwicklung in Deutschland.

Die Analyseergebnisse beider Modelle lassen sich schließlich ebenfalls sowohl auf der Ebene des landschaftsarchitektonischen Parkmodells wie des urbanistischen Theorierahmens auf China übertragen, indem das Parkmodell des *country park* vor dem Hintergrund der derzeit geplanten und realisierten chinesischen Stadtlandschaften im Hinblick auf Ähnlichkeiten und Unterschiede reflektiert werden. Dabei wird gezeigt, wie internationale urbane Parkmodelle der Landschaftsarchitektur auf verschiedene Kulturen, auf soziale, ökologische und ästhetische Entwicklungen Einfluss nehmen können.

Die Untersuchung der landschaftsarchitektonischen Theorien und Schulen des nordamerikanischen *landscape urbanism* und des deutschen landschaftsarchitektonischen *Strukturalismus* sowie ihrer beiden großräumigen Modelle, des *large parks*, zeigt bemerkenswerte Berührungspunkte, aber auch Unterschiede in den Verständnissen von Landschaft (zusammenhängend vs. kreativ), von Landschaft und Ökologie (Darstellung vs. Metapher) sowie von Landschaft und Alltagsleben (Vielfalt vs. Unvorhersehbarkeit). Indem diese letztlich als kulturelle Interpretationen der Idee zu verstehen sind, geben sie Anlass für eine Umdenken der dritten Modellkultur, des chinesischen *country parks*.

Contents

1 Introduction

1.1 Outline of the Research Field

In the late 20th century, emerging theoretical analyses and conceptions of contemporary *urban landscapes* attracted research interests in North America (USA, Canada) and Germany. There is hardly any plain concept to sum up *urban landscape*, and the cumulative theoretical differences surrounding this concept are attributed to the different conceptualizations of the two developed regions. In a traceable fact, post-industrialization resulted in the urban dissolution crises in North America and Europe. Thus, a search was initiated for alternative spatial structures in different cultures, which generally refer to *urban landscape*. In the research hypothesis, from the 1970s to the 1980s, cultural landscape scholar J. B. Jackson and philosopher and sociologist Henri Lefèbvre contributed in the theoretical analyses of *urban landscape* in North America and Europe, respectively.

By the 1990s, advanced urban landscape formulations are influenced by previous works and are closely related with the conceptual approaches of *critical thinking* by James Corner and *critical structuralism* obtained by analyzing Peter Latz's designs and theories. *Critical structuralism* is used as an interpretation of Peter Latz's 'structuralistic' approach, published as "Syntax of Landscape." Two divergent landscape architectural schools of thought, namely, *landscape urbanism* and *landscape structuralism*, are probed in the research in parallel with the two conceptual approaches. The understanding on specific *urban landscape* develops over time and involves theoretical analyses of the conceptions in North America and Germany.

The current study conceptualizes the contemporary *urban landscape* as a comprehensive yet multivalent concept that is inextricably linked with urban society, urban structure, and urban nature. Thus, regional cultural features are distinguished against the ubiquitous urbanization and globalization. *Urban landscape,* as a technical term, is speculated

—in response to the transition towards a post-industrial society, in which urban remediation and renewal projects are generated to integrate complex site environments, public infrastructure, and urban everyday life;

—as a spatial concept in a lock-step with a change in urban structure, as the dissolution of dominant urban organizational form in the massive urban growth, and the rise of suburban areas;

—as a conceptual open structure offering diverse spatial forms to preserve urban nature in the face of ecological crisis and movement and to support and feed natural processes for the resilience of urban nature; and

—as a positive term that substitutes for all other concepts, such as *zwischenstadt*, *edge city*, *suburbania, sprawl*, *periphery*, and so on.

These levels generally refer to contemporary *urban landscapes* that are adapted to changing urban conditions in terms of spatial structure, society, and ecology. The qualifier "urban" replaced "city" in the research to define landscape, society, structure, nature, life, infrastructure, and so on, because of the rise of the broad concept *urban region* in the European academia in the 20th century. This concept is particularly influenced by the idea of German architect and urban planner Thomas Sieverts: "the city is integrated with the landscape, and the old contrast between town and country has already substantially dissolved in favor of a city-landscape continuum" (Sieverts 2003, p. 47). *Urban region* precisely indicates an improvement in the spatial understanding of contemporary cities. Nowadays, the urban and the rural, cities and landscapes are no longer maintain a state of confrontation.

Regarding the emerging discourses on contemporary urban landscapes, Canadian-American architect and urbanist Charles Waldheim claimed to have proven "professional and critical categories to account for the renewed interest in landscape found in the work of many architects, landscape architects, and urbanists over the past several years" (Waldheim 2006, p. 16). The "professional" and "critical" strands of Waldheim (2006) actually describe the current inclination in landscape architecture, as discussed in the current study.

The professional field of landscape architecture, which is a body of theoretical assumptions and exploratory practices, is suggested to be triggered by "critical rationalism" (Popper 1957) in planning contemporary urban landscapes. Two critical research approaches are identified, namely, *critical thinking* and *critical structuralism*, as mentioned in the second paragraph (see p. 1). In parallel with them, scholars in North America and Germany advanced their ideas about contemporary urban landscapes and consequently developed critical theories. The current research focuses on the two critical conceptual theories: North American *landscape urbanism* with an ecological approach and German urban landscape with a 'structuralistic' approach.

The North American *landscape urbanism* with an ecological approach is process-orientated and focuses on the "formation of space through process" or the process as the "principal generators" of space-making (Wall et al., 2015, p. 195) in the new cognition of "the dynamic nature of the material itself" (Berrizbeitia 2007, p. 178). Since the 1960s, the

process-orientated approach has been considered in understanding the concept of contemporary city by Jane Jacobs under the influence of biology. With the "professional" and "critical" attitudes towards North American urban landscape at the end of the 20th century, contemporary city was presented particularly by James Corner's conceptual assumption of "a more organic, fluid urbanism" (Corner 2006, p. 29). After this process, the ecological approach is used by the proponents of *landscape urbanism*, which is explained in detail in Chapter 2 (see p. 37).

By contrast, the German 'structuralistic' approach is generally described as "the basis of scientific structuralism" referring to The Columbia Electronic Encyclopedia. *Structuralism* is defined as a "theory that uses culturally interconnected signs to reconstruct systems of relationships rather than studying isolated, material things in themselves. This method found wide use from the early 20th century in a variety of fields, especially linguistics." The current study expounds on the 'structuralistic' approach, which is "initially developed in structural linguistics" according to the Encyclopedia, and eventually extended to European architecture, German landscape architecture, and Peter Latz's interpretation of *critical structuralism* to develop a context-syntactical method. In Chapter 4, the 'structuralistic' approach is associated with *minimal intervention*, or *the smallest possible intervention*, followed by Bernard Lassus, Lucius Burckhardt, and Peter Latz (vgl. Weilacher 2008, p. 116). The 'structuralistic' approach is also adopted to cultivate and develop diverse spaces for social appropriation in everyday life.

Studies considering large-scale parks as a form of *urban landscape* are conducted to analyze urban landscapes in North America and Germany. Both in theory and practice, expanding large-scale parks as a core concept benefits the urban renewal and redevelopment on contaminated and mothballed industrial sites. The term *large parks* was formally proposed in the North American academia in 2003 on the basis of the works published by James Corner, Julia Czerniak, George Hargreaves, and Nina-Marie Lister. Landscape designer Julia Czerniak remarked, "more commonly today, however, designers find themselves making large parks on reclaimed industrial wastelands, brownfields, decommissioned military bases, or landfills whose limits—often political and economic as much as geographic—are imposed, not chosen" (Czerniak 2007, p. 26). Thus, these site "limits" provide contemporary large-scale parks with a unique feature. Most of these distinct parks in Germany are labelled as *postindustrielle Landschaftsparks* or *Landschaftsparks* (*post-industrial landscape parks* or *landscape parks*), perhaps to highlight the conversion of land-use types from industrial to post-industrial societies or emphasize landscape as an instrument for the reclamation of previous industrial sites.

Both German definitions inadequately summarize large-scale parks, particularly corresponding to the re-comprehended *urban landscapes*. To solve this problem, the term

large parks is also adopted instead of *post-industrial landscape parks* or *landscape parks* in the German landscape architecture. Similar to *urban landscape*, *large parks* can be variably interpreted in the two cultures. In fact, the North American concept of *large parks* basically refers to a large-scale park model, which represents the post-industrial and "extensive landscapes" and responds to the critical, professional re-formulation of *urban landscape* (Corner 2007, p. 11). This park model can exceed spatial boundaries and explain the transformation of reclaimed industrial sites based on the changes in the overall socio-economic structure as well as the current understanding of nature and ecology. Thus, the term of *large parks* can be adopted in Germany.

However, the two park models are considered different and dependent in terms of their conceptual approaches on their material 'structure' or idealistic infrastructure. Considering the 'structure' in space or the 'matrix' in landscape ecology, the concept of *large parks* is categorized as the German model of *structuralistic parks* and the North American organic model of *large parks*, which are interpreted differently.

Without adding other concrete qualifiers to the noun 'park', "large" indicates various levels of implications in the two cultures. The concept of *large parks* in North America, which is a post-industrial 'thinking' park model, focuses on handling complex and contaminated sites, whose types with "limits" have been pointed out by Julia Czerniak (2007). Parks in these sites tend to be "constructed, built, and cultivated—designed" from "more open-ended processes and formations" (Corner 2007, p. 13). Aside from pertaining to size, "large" is also a metaphor for an organism, representing ecological *complexity* and *resilience*; moreover, this concept indicates the "ambition" of North American scholars to establish a conceptual framework between urban form, dynamic environmental processes, and everyday life (Czerniak 2007, p. 26). In comparison, the concept of *large parks* in Germany is considered a 'large thinking' park model for the entire region. Therefore, these parks are designed for single and limited sites, such as Peter Latz's Landscape Park for Duisburg, as well as for many other previous mining, furnace, and steel construction areas in the greater Ruhr region. In this sense, German *large parks* without boundaries can be considered as a strategy and process for the gradual and careful renewal in urban regions.

The common definitive words of 'post-industrial' and 'landscape,' which are implicit in the concept of *large parks*, differ from the conventional and pastoral 19th century parks because contemporary large-scale parks are primarily viewed as a landscape mostly on post-industrial sites and not to parks only.

The 19th century park model, which represents the *pastoral ideal*, is considered outmoded. In his 1964 work entitled "The Machine in the Garden," Leo Marx stated that "the pastoral ideal […] is located in a middle ground somewhere 'between' yet in a transcendent relation to the opposing forces of civilization and nature" (Marx 1964, p. 23). This definition

suggests that a conflict exists between an idyllic natural world and industrialization represented by technological advancement offering a "counterforce" in the pastoral ideal (Ibid.).

However, the exposition on the North American and German contemporary models of *large parks* demonstrate that they greatly shed limit to the 19th century park model. The current study focuses on North American *large parks* with two newly emerging ideas, namely, 'landscape-based urbanism' and ecosystem dynamics, as well as German *structuralistic parks* with material structures in the design philosophy of "decoding, understanding, and representing a physical site" (Rosenberg 2007, p. 212). By critically analyzing conventional 19th century parks, two large-scale park models are constructed and developed within the contemporary urban conditions in accordance with the notions of urban society, urban structure, and urban nature. This thought is closely connected with the research question in the following section.

1.2 Research Motivation and Question

Various studies focus on contemporary urban landscapes and large-scale parks in most reclaimed sites in North America and Germany, respectively. Few researchers, particularly those with a landscape architectural background, combine critical urban landscape theories, conceptual approaches, and practical experiences and then compare these aspects at a parallel level, together with case studies of large-scale parks.

The current study aims to clarify the emerging critical theories about urban landscapes and large-scale parks within regional cultural contexts as well as determine their essential and distinct characteristics, which distinguish urban landscapes in developed regions. The significant difference indicates a rooted cultural "disposition", like "a person's inherent qualities of mind and character" within one's bone, referring to Oxford Dictionaries. An example is the creative vs. coherent cumulative understanding of landscapes between North America and Germany, as explained in Chapter 5 (see pp. 110–111). Determining and analyzing the differences of the concepts in terms of ideas and projects can help promote the research to be conducted.

Another motivation in conducting the current study is the possible adoption of the concept to the Chinese context. Theoretical and practical links exist for landscape architectural professionals between North America, German, and China, although Chinese researchers are more or less inadequate in terms of professional knowledge in urban landscape and related conceptual approaches from a critical perspective. To a certain degree, this study aims to clarify the principles of urban landscape theories and projects in developed regions and then

provide reference for Chinese landscape architects.

Hence, the study about large-scale parks based on the critical analysis of urban landscapes in North America, Germany, and China is conducted. The central issue of the research is hereby proposed: How should contemporary large-scale parks within cultural changing conditions be regarded in terms of urban spatial structure, society, and ecology? How is the relationship among large-scale parks, urban nature, and contemporary cities reimagined?

1.3 Research Methodology

The research methodology is determined as "critical rationalism" by Karl R. Popper in 1957, as explained in the second chapter (see p. 11). The method can provide "tentative rules for the choice of theories to examine, not to believe in", referring to Encyclopedia of Philosophy. This methodology is considered a scientific critical approach because "a scientist whether theorist or experimenter, puts forward statements, or systems of statements and tests them step by step" (Popper 1959, p. 27). In this sense, the scientific analysis of theories is associated with questioning, criticizing, and negation.

The critical approach is thoroughly explained in the second chapter by expounding on *critical thinking* proposed by James Corner and *critical structuralism* interpreted by Peter Latz. These explanations are crucial in the research on contemporary urban landscapes and large-scale parks because, at the level of theoretical exploration, some ideas are irrelevant considering the dynamic urban conditions and emerging concerns that must be reconsidered and addressed. The concerns are related to complex ecological environmental issues, and the re-emergence of industrial sites.

Two critical urban landscape formulations and park models have emerged in professional landscape architecture based on the critical approach.

In North America, the "critiques of modernist architecture and planning" proposed by Charles Jencks in 1977 influenced the *landscape urbanism* program. As a result, the term "landscape" is significant and "uniquely capable of describing the conditions for radically decentralized urbanization, especially in the context of complex natural environments" (Waldheim 2006, p. 37). Charles Waldheim also stated, "many traditional examples of 19th century urban landscape architecture integrate landscape with infrastructure—Olmsted's Central Park in New York and Back Bay Fens in Boston serve as canonical examples" (Waldheim 2006, p. 39). Unlike the traditional model, "large-scale infrastructural landscape" is currently adopted for "contemporary practices of landscape urbanism" in North America, such as *large parks* (Ibid.). In this context, criticisms on the "camouflaging of ecological systems within pastoral images of 'nature'" (Ibid.), which pertain to the classic 19th century

park to "integrate landscape with infrastructure," necessitates the conception of complex, dynamic, and living ecosystems established in *large parks* as "large-scale infrastructural landscape."

The *critical reconstruction* movement was proposed in Germany, where the modernist approach to city planning, architecture, and landscape architecture was also criticized. Under this influence and with other analyses on fundamental urban landscape, the conception of *landscape structuralism* has been considered in the German landscape architecture since the 1980s. By employing the critical approach, researchers realized that "the stereotypical reproduction of antiquated nature and landscape images was not the way forward" (Weilacher 2008, p. 103). German *structuralistic parks* on post-industrial sites are established in order to criticize "the conventional approach of wanting to preserve the industrial relics merely as alienated, incomprehensible monuments, as aesthetically attractive curiosities, without attempting to tie them into the complex landscape context" (Weilacher 2008, p. 107).

1.4 Contributions

Several findings are contributed based on the analyses of urban landscapes and large-scale park models in three regions, namely, North America, Germany, and China. These locations are selected based on the cultural and educational backgrounds of the author.

Chapter 5 indicates that three levels of differences exist in the urban landscapes between North America and Germany. These levels include coherent vs. creative (landscape understanding), representation vs. metaphor (landscape and ecology), and diversity vs. unpredictability (landscape and life), which are concluded and introduced in Chapter 6. They also used in rethinking the Chinese urban landscape.

Five qualitative characteristics (complexity, diversity, sustainability, appropriation, and identity) with cultural interpretations regarding contemporary large-scale parks in the three regions are identified and described in a specific regional cultural context. These are then comparatively analyzed in Chapter 5 using North American and German *large parks*.

Four major challenges are identified in rethinking the Chinese urban landscape, as described in Chapter 6. These challenges include rejection of *city beautiful* landscape concept; construction of *Shan-shui* structure based on Chinese *Shan-shui* culture; recognition of landscape as an essential role in urban renewal and development; and consideration of landscape from the ecological perspective.

Considering the specific and the levels of differences in urban landscapes, three aspects of

rethinking the Chinese urban landscape are determined: (1) at the level of landscape understanding, which pertains to the expanded landscape concept and landscape at an urban scale; (2) at the level of landscape and ecology, which refers to the diverse ideas of contemporary nature; and (3) at the level of landscape and life, which interprets life as an inexhaustible source of landscape conception.

1.5 Outline of the Research

The research frame is constructed according to five successive aspects, namely, question, method, analyses, results, and rethinking., The bullet points below are presented at the structural level, as depicted in Fig. 1. The content of each point is concluded in each chapter.

• Method: The *critical rationalism* approach is used in the critical construction of urban landscape. The analyses of North American *critical thinking* by James Corner and German *critical structuralism*, interpreted by Peter Latz, are presented in the second chapter.

• Analyses: Two large-scale park models, namely, North American *large parks*, which is as an organic park model based on ecosystem dynamics and processes, and German *large parks*, which is a *structuralistic park* model based on an open structure with layers of information and elements, are theoretically and practically studied in the third and fourth chapters, respectively. The former is analyzed from both the quantitative and qualitative perspectives, whereas the latter is examined from the qualitative perspective. The qualitative perspective captures five similar points: complexity, diversity, sustainability, appropriation, and identity.

• Results: Based on the comparative analyses of urban landscapes in two different schools of thought in Chapter 5, three points of differences ultimately resolve into landscape understanding, landscape and ecology, and landscape and life, as aforementioned in the contributions.

Several aspects of two large parks are identified regarding the similarities, including *critical rationalism* approach, primarily urban landscapes, models with cultural identities, as an instrument for site transformation in post-industrial society; as *eco-machines* for processes, as well as relationships with revised cities and urban nature. Eight opposite aspects correspond to their differences: (1) s*tructuralistic park* paradigm vs. organic park paradigm, (2) relying on *information* vs. relying on *imagination*, (3) objective representation technique vs. *imaging techniques*, (4) shaping structural space vs. establishing fluid, adaptive field, (5) spatial qualities vs. spatial performance, (6) cultivated process of nature vs. productive process of nature, (7) site-specific elements

vs. non-site elements, and the (8) characteristics of German model vs. those of the North American model.

Three points of differences and five points of qualitative characteristics are regarded as important results and contributions, which will benefit the rethinking of Chinese urban landscape and *country parks*.

- Rethinking: Considering the four challenges of the Chinese urban landscape, three points of rethinking are provided, as mentioned in the contributions. Chinese *country parks* are reconsidered from the five common qualitative perspectives.

Urban landscape, which is based on the *critical rationalism* approach, is rooted in the various cultural forms of urban large-scale parks, namely, the North American model of *large parks*, the German model of *structuralistic parks* and the Chinese model of *country parks*. These models are thoroughly analyzed in terms of urban society, urban structure, and urban nature. Becoming the different manifestations of urban landscape, two park models in developed regions are expounded as two analytical pillars (theoretical and practical parts) that are instructive to the reflection of the Chinese park model. The analyses and results based on the research hypothesis as well as the research contributions are crucial.

Fig. 1: Research outline and bullet points (made by the author)

Question How should contemporary large-scale parks within cultural changing conditions be regarded in terms of urban spatial structure, society, and ecology?

Method
(Chapter 2)
Critical approach:
Critical rationalism
to the *critical construction*
of *urban landscapes*

1. Region A- North America
Approach A- *Critical thinking* proposed by James Corner

2. Region B- Germany
Approach B- *Critical structuralism* interpreted by Peter Latz

3. Region C- China

Analyses
(Chapter3,4)

Urban landscapes

1. Conception A- *Landscape urbanism* with an ecological approach
Cultural Embedding A- James Corner's *cultural imagination*

2. Conception B- *Landscape structuralism* with a 'structuralistic' Approach
Cultural Embedding B- Peter Latz's cultural contextualization

Large-scale parks

1. Model A- North American *large parks* (Chapter 3)
(Organic model based on ecosystem dynamics and processes)

2. Model B- German *structuralistic parks* (Chapter 4)
(*Structuralistic* model based on an open structure with layers of information and elements)

Results
(Chapter 5)

Urban landscapes

Three points of differences (A vs. B)- Landscape understanding (creative vs. coherent);
Landscape and ecology (metaphor vs. representation);
Landscape and life (unpredictability vs. diversity)

I

Large-scale parks

Seven points of similarities (A and B)-*Critical rationalism* approach; Primarily urban landscapes;
Models with cultural identities; As an instrument for site transformation in post-industrial society;
As *eco-machines* for processes; Relationships with revised cities and urban nature

Eight points of differences (A vs. B)- Organic park paradigm vs. *structuralistic park* paradigm;
Relying on *imagination* vs. relying on *information;*
Imaging techniques vs. objective representation technique*;*
Establishing fluid, adaptive field vs. shaping structural space;
Spatial performance vs. spatial qualities;
Productive process of nature vs. cultivated process of nature;
Non-site elements vs. site-specific elements;
Characteristics of North American model vs. those of German model

Five points of characteristics (A and B)- Complexity; Diversity; Sustainability; Appropriation; Identity

II

Rethinking
(Chapter 6)

Chinese urban landscapes

Four challenges of urban landscapes- Rejection of *city beautiful* concept landscape concept,
Construction of *Shan-shui* structure based on Chinese *Shan-shui* culture;
Recognition of landscape as an essential role in urban renewal and development;
Consideration of landscape from the ecological perspective

III

Three points of rethinking- Landscape understanding (expanded landscape concept; landscape at an urban scale);
Landscape and ecology (diverse ideas of contemporary nature);
Landscape and life (life as an inexhaustible source of landscape conception)

I ; III

Chinese *country parks*

Five points of rethinking- Complexity; Diversity; Sustainability; Appropriation; Identity

II

A: North America
B: Germany
C: China
I: By comparison between A and B, the essential result of urban landscape benefits the rethinking of Chinese urban landscape.
II: By comparison between A and B, the essential result of large-scale parks benefits the rethinking of Chinese *country parks.*
III: Three points of rethinking Chinese urban landscape also consider its four challenges.

2 Contemporary Urban Landscapes with a Critical Approach

The research on three large-scale park models within the scope of contemporary urban landscapes in North America, Germany, and China theoretically and practically require a methodological approach. In this study, the theoretical analyses and conceptions of contemporary urban landscapes in North America and Germany are described by employing a critical approach. These analyses and conceptions are specifically defined as *critical rationalism* approaches, which are primarily manifested in *critical thinking* proposed by James Corner and *critical structuralism* interpreted by Peter Latz. Both views embody a critical, professional perspective in analyzing the current landscape architecture.

2.1 Critical Rationalism Approach

Critical rationalism is considered as a scientific research approach to studying contemporary urban landscapes. In 1957, Karl Popper used the term *critical rationalism* to refer to a modest and self-critical rationalism. The term was derived from *rationalism* because he agreed with Immanuel Kant's philosophical system of *rationalism* during the 18th century, which stated that human rationality creates "laws of nature" (vgl. Rohlf 2010). However, questioning the widespread correctness of *rationalism*, Karl Popper moved his *critical rationalism* toward "falsifiability" (Popper 1976). In "Unended Quest," he posed the following question to indicate "the logic of scientific discovery" (Popper 1959) as well as the "falsifiability":

> "My main idea in 1919 was this. If somebody proposed a scientific theory he should answer, as Einstein did, the question: 'Under what conditions would I admit that my theory is untenable?' In other words, what conceivable facts would I accept as refutations or falsifications, of my theory?" (Popper 1976, p. 41)

The questions worth pondering illustrate that a universal theory is never eternal nor enduring. Instead, it is open to be continuous questioning. In addition, even a theory is viewed to be scientific only when it has a probability of "falsification," which makes significant sense to Karl Popper. For him, falsifiability is "a criterion of demarcation" that is used to distinguish between "science and pseudo-science" (Ibid.). In conclusion, theories move forward through ongoing "falsification", negation, and criticism.

Transferring the philosophic approach of *critical rationalism* to the research and planning approaches generally guides us throughout our reflection on contemporary large-scale parks

and urban landscapes. Karl Popper's *critical rationalism* implies that, with the advancement of society, the classic 19th century park model demands to be theoretically contradicted, despite its existence in reality. The "untenable" park model gives rise to this research question: How are contemporary large-scale parks regarded within changing cultural conditions, in terms of urban spatial structure, society, and ecology?

Specifically, the *critical rationalism* approach is divided into two meanings to consider North American and German urban landscapes.

James Corner's *critical thinking* is interpreted as the *critical rationalism* approach to North American urban landscapes because in the early 20th century, he took the lead in bringing critical perspective to the discipline of landscape architecture, influenced by J. B. Jackson's landscape concept analysis in the 1980s. He proposed ideas in his 1991 work, "Critical Thinking and Landscape Architecture," in which he explicated:

> "[…] critical thinking begins with skepticism, particularly with regard to authority, rules, and conventions that have long gone unquestioned. […] Critical thinking also involves reflection, a considered and thoughtful analysis of the issues and values involved. This is followed by speculative contemplation, a formulation of alternatives and possibilities—necessarily fluid and unconstrained. Finally, critical thinking culminates in action: decisions are made, and work is done." (Corner 1991)

James Corner's *critical thinking* aims toward creative action. In this viewpoint, today's *critical thinking* is supposed to be more about "the creative processes of making and action than it is about theories of theories" (Ibid.). The critiques of theories per se clearly do not embody his understanding of the *critical rationalism* approach to urban landscape. In addition, the *creative processes* that James Corner emphasized actually coincide with his idea about North American landscapes in *cultural imagination* (Corner 1999). *Critical thinking* reflects creativity in action, in the aspect of culturally re-interpreting landscapes. For James Corner, the *creative processes* are also represented by his unique operational method called *plotting* for the practical conception of complex, dynamic sites, which are specified in the third chapter. In conclusion, the cultural embedding of creativity is certainly reflected in the understanding of the North American critical approach.

In addition, the *critical rationalism* approach to German urban landscapes is manifested in different planning styles developed since the early 1980s. An example is the *perspektivischer Inkrementalismus* (equivalent to *muddling through*), which is used at the IBA Emscher Park (1989-1999) and in the same surrounding of Peter Latz's method, which is referred to as *critical structuralism* in this study. The concept of *perspektivischer*

Inkrementalismus was shaped by Karl Ganser, Walter Siebel, and Thomas Sieverts during the 1980s: "*mit dem vorgestellten Adjektiv ist die Vielzahl der kleinen Schritte gemeint, die sich auf einen perspektivischen Weg machen*" (Ganser et al., 1993, p. 114). The literature on *critical structuralism* in German landscape architecture is scarce, but Peter Latz's explanation meets its core. In the 2017 manuscript version of Informationsdichte von Landschaft, he stated:

"[…] *unserer Methode auch der kritische Rationalismus: Planung muss nicht nur verifizierbar, sondern vor allem falsifizierbar sein. Das muss einem als fester Bestandteil im Blut liegen. Das ist nicht einfach, denn wir befinden uns in einer Gesellschaft, einer Planung im Überfluss, und zwar einen Überfluss an Informationen.*" (Latz 2017)

The *critical rationalism* approach guides landscape planning and design not only to be verifiable but also falsifiable, which should be considered as an integral part. Peter Latz's statement implies that it is not easy for professionals to make falsification and criticism. Even so, the *critical rationalism* approach is expected to be grasped by them. Through this approach, German urban landscapes have been critically reconstructed and gently renewed since the 1980s, rejecting the radical modernist approach of rigid functional division. From this concept emerged the German *landscape structuralism* movement, which has affected the comprehension of the *structuralistic park* model.

Peter Latz's *critical structuralism* is a concept of structure pertaining to the characteristic urban landscape, which is deeply rooted in a unique cultural contextualization. The structure signifies complex, constructed, and layered landscape systems (vgl. Weilacher 2014, p. 226). Accounting for the cultural contextualization, Peter Latz remarked that "landscape is basically history" that could not be "obliterated" but turned into "your partner" (Latz 2015). Hence, the approach stresses on seizing "visible" and "invisible" "layers of information and elements" from the surroundings, keeping nearly everything for recycling, and then incorporating them into the structure (Latz 2008b), because "every element can become an element of the landscape" (Latz 2013a, p. 102).

Compared with James Corner's *critical thinking* with *creative processes* in the *cultural imagination*, Peter Latz's *critical structuralism* with the structure embeddedness is treated as the method for criticizing generic urban landscapes without cultural contextualization. Through this approach, the goal of keeping everything for reinvention is realized. As Peter Latz stated, the method is "between preservation and change" (Latz 2005, p. 7).

In conclusion, through the critical approach, formulations of contemporary urban landscapes

and large-scale parks are constructed in North America, Germany, and China. In terms of the author's Chinese cultural background, learning experience in Germany, and international perspective, the three regions are considered as representative, and more suitable in conducting cross-cultural comparison and communication.

For comparison, discovering global challenges and common tasks that the overall profession of landscape architecture must deal with is a task against the background of ubiquitous urbanization and globalization. With the rise of suburban areas and the demand to cope with the ecological and environmental condition after deindustrialization, the prominent global challenge in our discussion is related to the issue of site transformation as well as sustainable urban renewal and development vis-à-vis sociocultural and ecological considerations. Therefore, the common task is to realize the conversion of sites, especially contaminated industrial sites, through large-scale park planning and design in the conduct of spatial and temporal development.

However, in face of the common challenge, distinguishing among park conceptions, conceptual approaches, and strategies is manifested into various responses, and this is the primary aim of cross-cultural comparison and communication. Based on regional cultural diversity, these distinctive responses stimulate the analysis and development of contemporary urban landscapes and large-scale parks in their respective cultural contexts. The comparison can also fulfill the possibility of constant, extensive communication and a discussion in the field of landscape architecture.

In particular, three models of contemporary large-scale parks are used in the research, and two of these come from developed regions: the North American *large parks* model, which has been used since the early 2000s, and the German *structuralistic parks* model, which has been explored since the late 1980s. Both models are explained based on the renewed understanding of contemporary urban landscapes, namely, the theoretical formulations divided into two branches: the 1990s North American *landscape urbanism* and the 1980s German *landscape structuralism*. Referring to these theoretical explorations and experiences, the Chinese *country parks* implemented since the late 1970s as the third model could be reflected within the conception of Chinese urban landscapes.

Through the *critical rationalism* approach, the conventional understanding of 19th century parks is considered as "untenable" in the postindustrial age; thus, the evolving cognition of contemporary large-scale parks is expected to be established.

The classic park is identified as a generic, pastoral model, "borrowed from popular 18th century landscape painting" (Weilacher 2008, p. 103) and influenced by the traditional conception of "picturing landscape" (Waldheim 1999, p. 127). Concerned with this, the

American artist Robert Simithson said, "the 'pastoral,' it seems, is outmoded" (Simithson 1968, p. 105). He demonstrated that the pastoral park model, expressing its conflict relationship with industrialization and technology at a particular moment in history, is actually outmoded (vgl. Rosenberg 2007, p. 209). In this situation, the park is a "counterweight to an urban and industrial society" (Eisel 1982; Höfer et al., 2013, p. 406).

However, the process of deindustrialization evokes the rethinking of contemporary parks, particularly in former industrial spaces and the re-imagination of relationships among parks, nature, society, and technology. Instead of the *counterweight* reference, urban-natural, social, and technological factors are incorporated into contemporary large-scale parks. They are naturally linked with the research question on how to regard contemporary large-scale parks in changing cultural conditions. In addition, the research hypothesis involves two large-scale park models from the developed regions, which are constructed with the critical approach that embodies the rethinking and conceptualizing of parks in post-industrial cities. Aiming at transforming the complex and contaminated industrial sites, two different methods deal with these sites: the North American organic and German 'structuralistic' approaches.

North American *large parks* with the organic approach is an emerging park model driven by dynamic processes. This is the main body of the research because of its positive rethinking of urban landscape in responding to the global challenge, advanced ecological ideas with contemporary interpretation of the nature, and noticeable theoretical explorations through a range of park competitions. Ideas about *large parks* are mostly advanced by some North American scholars, such as James Corner, Julia Czerniak, George Hargreaves, and Nina-Marie Lister.

In essence, with James Corner's approach of *critical thinking*, the concept of *large parks* is created in order to realize "a truly ecological landscape architecture" associated with the organic approach (Corner 1997, p. 102). For Corner, the "truly ecological landscape architecture might be less about the construction of finished and complete works, and more about the design of 'processes,' 'strategies,' 'agencies,' and 'scaffoldings'—catalytic frameworks that might enable a diversity of relationships to create, emerge, network, interconnect, and differentiate" (Ibid.). To illustrate this statement, the Fresh Kills Park planning and design in 2001 led by James Corner fully demonstrated his *large park* assumption of ecological landscape architecture in practical examples. Over time, the park shapes "an ecology of various systems and elements that set in motion a diverse network of interaction" (Corner 2006, p. 31).

Compared with North American *large parks*, the German concept of *large parks* has a 'structuralistic' approach. With the *critical structuralism* employed in landscape architecture, the German model is studied chiefly in this context. Consequently, a unique *structuralistic*

parks emerged in the form of German *landscape structuralism*. The search for site structure, or "syntax," becomes an essentially analytical step for German large-scale park conception (vgl. Rosenberg 2007, p. 213). Peter Latz elucidated his emphasis on the "structure" in park design while critiquing the "image", that is, "it is not the images, but the abstractions, schemata of information layers or single systems that are required for understanding structure. The images of perfect examples that aim at the semantic level no longer show how it should be done" (Latz 2008a, p. 8). In other words, it is the structure that shows how the park should be analyzed and planned.

With recovered landscape as a key issue of urban regional development (vgl. Gailing 2005), the German *large park* is a strategy for keeping and retaining the site's industrial presence to the greatest extent possible. This concept reflects Peter Latz's viewpoint of "design by handling the existing" (Latz 1993). Through the 'structuralistic' approach, many physical materials of sites related to cultural history and memory are analyzed and organized into multi-layered systems. On this basis, "new places" of large-scale parks are "invented at the fault lines between what was destroyed and what remained, between structures" (Beard 1996, p. 35). They may boil down to his park design philosophy of "decoding, understanding, and representing the physical site" (Rosenberg 2007, p. 212). In Peter Latz's planning and design for his Duisburg-Nord Landscape Park from 1989 to 1999, done within the framework of Emscher Park linked with the International Building Exhibition program, is articulated as an essential exemplification in concrete project cases.

Ultimately, the significance of discussing the two abovementioned large-scale park models lies in facilitating the rethinking of Chinese *country parks*. The original concept of Chinese *country parks* was established in the 1970s, when the 1971 country park pilot programme was proposed and a *country park* system in Hong Kong was planned. In light of the legal framework of the 1976 "Country Parks Ordinance", this park model emerged so as to "protect the vegetation and wild life," "preserve and maintain buildings and sites of historic or cultural significance," and "provide facilities and services for the public enjoyment" (Country Parks Ordinance 1976). With the successful integration of natural resource conservation and urban recreational activities in many areas of the city, the Hong Kong version of *country parks* soon became accepted as a unique large-scale park model in China. Actually, this park model contributes to a limited exploitation and management of urban ecological environment. It also promotes the shape of urban landscapes in the overall urban region through regional morphology as well as natural landscape elements and their characteristics.

In this context, given the actual situation of *country park* planning, implementation, and related debates in Chinese cities, Beijing is preferred for the urban landscape reflection and *country park* case study. It is one of the earliest cities to engage in *country park* planning

and design in suburban areas. In addition, since the 2000s, Beijing has energetically built country parks in accordance with the country park development program for coordinating with the *greenbelt strategy*. Still, Beijing *country parks* in the condition of coordination is distinguished from those of Hong Kong. Hong Kong *country parks* are by no means confined to so-called *greenbelts*, which aim to offer relief and buffer from rapid urban development. Instead, they purposely choose various urban areas that are mostly dependent on the advantages of location, topography, natural and ecological resources, and urban infrastructure. Meanwhile, another major difference between the two park systems lies in land-use types. At present and even in the near future, Beijing *country parks* are expected to be involved with former industrial land in the gradual transition, in terms of socio-economic structures, and in ecological understanding. They do not merely protect favorable natural conditions in urban regions and provide planned recreational facilities.

In recent years, with the rapid urbanization followed by the urban growth and ecological environmental crises, increasing concerns about *country parks* have emerged in the field of landscape architecture. In particular, in the 2003 research project of "Beijing Space Development Strategy", Chinese urban planner Liangyong Wu advised the Beijing local government to construct four country parks at a regional scale with four geographic directions to meet the urban demands for recreation, ecology, history, and forest. In 2004, the current understanding of *country parks* is formally mentioned in "Beijing Urban Green System Plan (2004-2020)". Hence, *country parks* are described as green open spaces in the urban fringes and are often found outside the built-up areas. They serve as urban parks at a regional scale, providing ecological services, maintaining reasonable urban spatial structure, coordinating urban and rural developments, and restricting the sprawl (vgl. Beijing People's Government Master Plan 2004).

Despite the aforementioned description, limited studies cover country park analysis in *mainland China* (excluding the special administrative regions of Hong Kong and Macau). Perhaps, some theoretical delivery and communications were conducted until the reunification of Hong Kong in 1997. Furthermore, the existing Beijing *country park* concept is obviously less related to the formation of urban landscapes with regional cultural characteristics. In addition, this park model lacks cultural identity. Thus, the current study attempts to explore this park model as a contemporary urban landscape form, critically referencing the other two large-scale park models from developed regions and seeking their own park identities. Similar to the cases of North America and Germany, their aforementioned common challenges and tasks may also drive Chinese country parks forward and further the theoretical and practical development of urban landscapes with the critical approach.

In this study, as we are confronted by Western theoretical and practical experiences on

landscape urbansim and *landscape structuralism*, learning their *critical rationalism* approaches to urban landscape analyses is worthwhile. For China, blind replication and the lack of the critical approach have often failed to offer an authentic way out, and they are not the main purpose of this research. Here, we are driven to ask: What should be really thought of in the process of referencing? Hereto, German cultural theorist Hartmut Böhmethus seems to give us a suggestion from a cultural perspective. He pointed out that our demands are the "establishment of cultural reflection" in the societies themselves (Böhmethus 2000). Such a cultural reflection means that, within the Chinese socio-cultural context, theoretical analysis and comprehension of urban landscape and country parks should generally be directed toward cultural identity formation that is based on a rational, critical reference to developed regions.

In this sense, the conception of Chinese *country parks* can be in complete accordance with neither the North American organic nor the German 'structuralistic' approach because we could not easily determine any conceptual approach that will be suited to the *country parks* concept by merely analyzing it. Determining the approach that would dominate the development of *country parks* in the future is also difficult. Hence, in the process of reflection, the precise approach pertaining to these *country parks* is not offered in the last chapter. Instead, crucial points discovered from North American and German park models perhaps call for the self-development of the distinctive *country park* approach.

Based on the organic approach, some thought-provoking ecological ideas of nature are valuable to the conception of *country parks*. Particularly, with the major environmental challenges faced by most Chinese cities, an increase in ecological awareness does not stimulate the formation of diverse ecological ideas in the professional field. Obviously, the Chinese urban landscape has been devoid of an ecological theoretical support, whereas the North American urban landscape has been theoretically implemented creatively, where landscape and ecology are conceived as "agents of creativity" (Corner 1997). Through systematic analysis, emerging ecological thoughts that have emerged since the 1980s and infused into North American *large parks* are revealed in the third chapter. Among these thoughts, the deduced characteristics of *complexity* and *resilience* from the landscape-ecological perspective articulated may be considered in future *country park* conceptions.

In addition, referring to the 'structuralistic' approach, the site is reframed and expressed through the structure, in which almost everything is retained. The site is apparently inherited and based on durable development over time. The German approach implies a coherent landscape understanding in the specific cultural contextualization. This will be clearly pointed out in the comparative part of the fifth chapter (see pp. 110–111). Similarly, a consideration of inherent structure exists in the Chinese traditional planning and design.

Such a consideration manifests as a kind of *Shan-shui* structure that reflects a traditional *Shan-shui* culture within the cosmology of harmony between nature and man. Actually, the future development of *country parks* is inseparable from the discussion and rethinking of spatial structure.

In this sense, the self-development of the Chinese *country park* approach needs time. In its process of formation, we could critically combine it with the creative and ecological ideas found in the North American organic approach, and referring to the German 'structuralistic' approach could help form our unique structural representation based on the *Shan-shui* culture. The representation of spatial structure can either be the traditional *Shan-shui* structure or its abstraction with more individual creativity. In short, the considerations and analyses about Chinese urban landscapes are produced in Chapter 6, after expositions on *large parks* in North America and Germany.

Through the *critical rationalism* approaches, contemporary urban landscapes are therefore on the way to a readjustment particularly in developed regions. It drives landscape architects to foster a "critical" and "professional" understanding of 'landscape' at an urban level. The two essential strands were seized by Waldheim in 2006 (see p. 2). The next section explains the urban landscape readjustment in North America and Germany, and analyzes this tendency through physical changes in urban environment.

2.2 Contemporary Urban Landscapes in Readjustment

In the research, we highlight renewed understanding of contemporary *urban landscapes* influencing upon two large-scale park concepts. The renewed understanding is gained by readjustment, certainly involving critical attitude. This implies both North American and German academic circles began to advance their own idea of the term 'landscape' at the urban level. In this part, the tendency of readjustment is primarily indicated in preparation for the further urban landscape formulations of *landscape urbanism* and *landscape structuralism*.

At the same time, the urban landscape readjustment is bound up inextricably in the revised city, that is, dissolved urban structure and transitional urban society. This part will make arguments that our present changing urban environment invites new ways of seeing and interpreting contemporary *urban landscapes* and their essential embodiment as large-scale parks in a critical way (vgl. De Jong 2000, p. 13).

2.2.1 Formation of a New Landscape at the Urban Level

In recent years, as Charles Waldheim's clear-cut declaration on "realignment" (Waldheim 2006) in North American landscape architecture, much more information on readjustment of the term 'landscape' has been apparently captured by worldwide landscape architects. In fact, "large-scale landscape architecture shifting into a planning discipline" has become a tendency, revealing a progress in the concept of 'landscape' both in countries in North America and Germany (Schöbel et al., 2009). Thus, the term 'landscape' assumes new delineations at the urban level that not only broaden its connotation but also make its role in urban renewal prominent. To account for the emergence of the tendency in landscape architecture, James Corner presented three aspects as key factors, which include the remarkable rise of a global ecological awareness; needs of regions to retain a sense of unique identity; and the impacts of massive urban growth on rural areas (vgl. Corner 2006, p. 23). In other words, the promotion of ecological sustainability in search of regional identity and the rise of rural areas stimulate the new landscape articulations in developed regions. As urban natural, cultural, and spatial factors are integrated into the critical discussion on landscape, the new landscape at the urban level is formed in different North American and German ways.

In North American academe, landscape architects, such as Charles Waldheim, James Corner, and Elizabeth K. Meyer, advocate readjustment ambitiously. This advocacy is mostly reflected in matters relating to landscape's significance and the expansion of its "scope" and "scale" (Corner 1999, p. 2). Given these three areas (i.e., significance, scope, and scale), James Corner's articulated term for 'landscape' holds central significance within design professions, such as architecture, landscape architecture, and urban design and planning. Moreover, there is a shifting "interest in a deep concern with landscape's conceptual scope; with its capacity to theorize sites, territories, ecosystems, networks, and infrastructures, and to organize large urban field" (Corner 2006, p. 23). As the conceptual consideration of landscape capacity at the urban level is identified, the landscape scale extends naturally to metropolitan areas.

Another orientation of readjustment is placed on the combination of landscape and ecology, when North American landscape architects attach more importance to the role of "ecological awareness," which is the aforementioned first factor proposed by James Corner. These professionals are acutely aware of certain crucial changes touching upon dynamic ecosystems with renewed characteristics, and then reintergrate their understanding of nature with urban landscape planning and design. Undoubtedly, they offered overwhelming support for the ecological sustainable development. Hereto, Nina-Marie Lister purported the ecological impact upon the large-scale landscape architecture as "the renaissance of landscape" throughout the last fifteen years (Lister 2015, p. 18). An increasing number of landscape architects, who are guided by ideas and principles in ecological sciences, have

affirmed the development of urban landscape "coupled with a focus on indeterminacy and ecological processes as catalysts for the reemergence of landscape theory and praxis" (Ibid.). Consequently, the readjustment of landscape in North American landscape architecture contributes to the formation of the concept of *landscape urbanism* in the mid-1990s that will be articulated in the following part (see p. 37).

In German academe, readjustment is also viewed as "the renaissance of landscape because of the rise of suburbia" (Schöbel et al., 2009). German landscape architect Sören Schöbel explained, "the dissolution of the evident distinction between city and landscape, between urban and rural areas, is leading to a development of a new form of city and a new form of landscape not only in terms of building and infrastructure but also concerning lifestyle and social relations. Specific urban landscapes appeared" (Ibid.). As one of rational analyses in German landscape architecture, Sören Schöbel's statement expressed the consideration of new landscape at the urban level, which could be claimed as *kritische Rekonstruktion* (*critical reconstruction*).

The notion of *critical reconstruction* was known from *Städtebau* (urban design) in the 1980s (vgl. Schöbel 2011; 2014, p. 147). Sören Schöbel pointed out that modern urban planning was replaced by *behutsame Stadterneuerung* (*careful urban renewal*), *dialogische Stadtenwicklung* (*dialogical urban development*), and *kritische Rekonstruktion der Stadttextur* (*critical reconstruction of urban texture*) (Ibid.). Early in the 1960s, there was already a critique of mechanically conceptual model of modern city with pre-planned functional zoning and distribution in the urban planning. Among which, Italian architect Aldo Rossis in his 1966 work, "The Architecture of the City", argued that the true essence of a city is deprived in the architectural practice. City should be understood and valued as a physical and social arrangement constructed over time. Aldo Rossis's view actually laid a foundation for the more anti-modernist ideas. In the 1970s, sociologist Richard Sennett's view of the careful rebuilding of European cities were confirmed by all empirical findings in historical context on social, economic, and ecological benefits, which is quoted by Sören Schöbel in "Landschaft – Kritische Rekonstruktion" (2014). That is to say, the development of city connected to the historical past would have needed to be constructed carefully over time.

Apparently, increasing architects and urban planners at that time were aware critically of modernism itself owing to the "emptiness and dissatisfaction they felt in the urban environment" (Barrows 2007, p. 9). They even attributed the destruction of the city less to the second World War than to the functionalistic idea held by professionals in urban planning (vgl. Lampugnani 1983, p. 19). As a result, they adopted a scientific critical approach that became central to their empirical practices. German architect Josef Paul Kleihues, who contributed to the *critical reconstruction* of Berlin from 1984 to 1987,

aspired to return to traditional urbanism. In particular, Kleihues applied his own concept of *critical reconstruction* to urban renewal projects of the International Building Exhibitions (IBA) in the 1990s in which he advanced traditional urbanism, highlighting the mixture and integration of urban functions and shaping the overall "character" of a city and "differentiated architectural forms" (vgl. Kleihues et al. 1993). In view of the critique and restraint on modern functionalist idea as regards European cities, the *critical reconstruction* program emerged in the field of German urban planning. Evidently, its occurrence could also be assumed based on Karl Popper's modest and self-critical rationalism.

Taking such history into account, the concept of *critical reconstruction* was considered to be adopted in the field of German landscape architecture to rethink contemporary urban landscape. The transition of this concept is possible, arising from an implicit association of the 1980s *critical reconstruction* with urban landscape, owing to the identical anti-modernist perspective. This point was affirmed by architect Vittorio Magnago Lampugnani's statement:

> "The European and especially the West German urban landscape has clearly been destroyed less by the war then by the planners who, because of their abstract, biased and global conception of a city which in their view is an addition of quantitative functions, have turned them mostly into cheerless and desolate places." (Lampugnani 1983, p. 19)

Meanwhile, the adoption of *critical reconstruction* concept was also noted in Sören Schöbel's 2014 essay "Landschaft–kritische Rekonstruktion" ("Landscape–Critical Reconstruction") through a rhetorical question:

> "*Lässt sich auch Landschaft in einer 'kritischen Rekonstruktion' entwickeln? Dazu ist es erforderlich, auch in der Landschaft jene Elemente, Bausteine und Typologien zu identifizieren, die eine gewisse Stabilität über die Zeit hinweg aufweisen können und dabei in der Lage sind, Vielfalt in einem Zusammenhang zu fördern.*" (Schöbel 2014, p. 147)

Sören Schöbel's question stressed the necessary requisite of developing *critical reconstruction* in the German landscape architecture. In *urban landscape*, its certain stability could be presented over time, with the identified elements, building blocks, and typologies in landscape. Connected with these, "diversity and differences" of urban landscape "as immanent qualities" are thereby able to be promoted (Schöbel et al., 2009). In this sense, *urban landscape* is dependent on spatial qualities through specific formal elements, rather

than merely concentrating on functions. These elements, building blocks, and typologies are deployed for the characteristic urban fabric, instead of homogenous urban texture. They are also organized into "a spatial structure, an open entireness where diversity and differences are and where coherence could be generated" (Ibid.). That is to say, *urban landscape* is visualized and established by a structure composed of multilayered landscape elements and typologies, in which 'diversity,' 'differences,' and 'coherence,' as essential qualities display, take both historical and current contexts into account.

In North America and Germany, their respective readjustment leads *urban landscape* to be redefined in two different yet similar new ways. As the significance, *scope*, and *scale* of landscape at the urban level promoted, the North American term of 'landscape' is adjusted along the eco-priority track; this adjustment is for cultivating *resilient* urban landscape according to an ecosystem property of *resilience* that will be explained in C. S. Holling's 1992 dynamic model in Chapter 3 (see p. 67–68). In this situation, *landscape urbanism* program rose with the critical approach, which is regarded as "a robust alternative to the failures of modernist urban planning" (Tully 2013, p. 438). This part will be analyzed in the exposition of *landscape urbanism* with an organic approach (see p. 37). Its proponents are precisely the scholars who support landscape readjustment actively. For another, under the influence of *critical reconstruction* program in urban planning, the German term of 'landscape' is adjusted on the way to the structure for shaping characteristic urban landscape with regional cultural landscape elements, showing spatial 'diversity,' 'differences,' and 'coherence'. Accordingly, German *landscape structuralism* with a 'structuralistic' approach in research is also further discussed (see p. 39) in parallel with North American *landscape urbanism*.

In the current study, before the two kinds of *urban landscapes* in developed regions are stated, we also trace back to physically changing urban environment that invites new ways of seeing and interpreting different *urban landscapes*. It embraces the shifts in contemporary urban structure and urban society, which pertain to two aspects of the research question. Then, essential theoretical analyses of *urban landscapes* are elicited for better considerations of two theoretical schools of thought: *landscape urbanism* and *landscape structuralism*. They constitute the following two sections.

2.2.2 Physical Changes in Urban Environment

From the view of German urban planner Sophie Wolfrum, there is a trend that new spatial forms of cities together with new urban landscapes are emerging. (vgl. Wolfrum et al., 2008, p. 7). The reason for the production of new spatial forms mentioned above lies in physical changes in urban realities, including the dissolution of urban structure in the spatial

dimension and the growth of urbanity in the social dimension. The thought of connecting urban landscapes with cities is indicated by Sören Schöbel as views from the outside of landscape by itself (vgl. Schöbel 2007, p. 53). Referring to his viewpoint, the landscape readjustments should be treated from the perspective of revised cities, which would be specified as follows:

- Changing cities

- Dissolved urban structure and growth of urbanity

Changing Cities

Under the profound influence of irresistible urbanization and globalization, "the world's cities are changing" (Wolfrum et al., 2008, p. 7). Generally, contemporary cities around the world are subject to such changes: growing and shrinking, and flourishing and declining (vgl. Schäfer 2005, p. 10). Those in developed countries, such as countries in North America and Germany, are experiencing urban shrinkage and perforations as a result of "the decline in population and the closure of industrial installations" (Dettmar et al., 2003, p. 76). In contrast, those in developing countries, such as China, are facing rapid and massive urban expansion.

With the shrinking of cities in developed regions, the term *post-industrial society* was popularized by American sociologist Daniel Bell in 1974. The term illustrates that with the process of deindustrialization, the huge transition of society brings about the issue of post-industrial site transformation, which is the above-mentioned common challenge in today's landscape architecture (see p. 13). Consequently, the increasingly prominent issue of dealing with sites' disorder and complexity elicited critical requirements for large-scale parks in metropolitan areas instead of antiquated pastoral park paradigm in former industrial cities. Nina-Marie Lister stated that cities are "revitalizing their post-industrial areas, often through the creation of large urban or exurban parks" (Lister 2007, p. 38). In other words, the huge transition around the world from industrial to service economies created a vast inventory of large abandoned sites (vgl. Corner 2007, p. 12), which stimulated the development of large-scale parks on such sites, including "quarries, water-treatment facilities, power-generation plants, factories, steel mills, landfills, military bases and airports" (Meyer 2007, p. 59). In conclusion, changing cities as an urban phenomenon in developed regions prompted the emergence of post-industrial areas, enabling the large-scale parks to become an instrument to activate the derelict sites.

However, most developing cities in China still retains a rapid urban growth and expansion.

As the earliest city that engages itself with the *country park* planning and design in suburban areas, Beijing is taken naturally as an example of a changing city in China. As per Master Plan of Beijing 2002–2020, the overall urban built area has increased with the expansion of ring-shaped infrastructure system from 1975 to 2002, shown in Fig. 2 (vgl. Stokman et al., 2008, p. 32). Such plan suggests that since the foundation of the People's Republic, rapid population growth and increase in housing and economic activities have expanded the inner city's built up area from 84km^2 in 1949 to more than 700 km^2 within the recent decade (vgl. Li et al., 2005, p. 1). Among the impacts of economic reforms in 1978 was an unprecedented urban expansion. The distribution of settlements and infrastructures followed a dominated ring-road system; the second and the third ring roads were built separately during the 1980s to the 1990s. The appearent urban growth is another embodiment of changing cities in the worldwide.
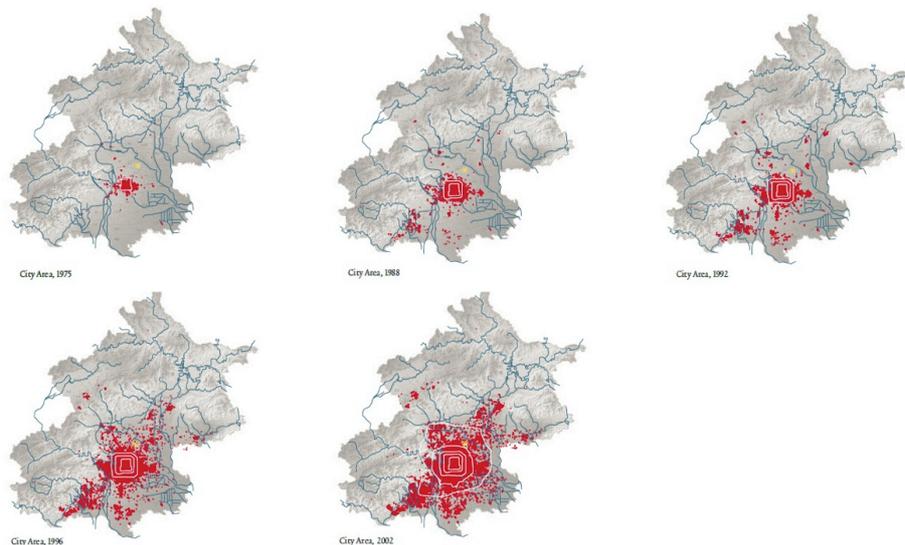
Fig. 2: Rapid and massive urban expansion of Beijing city from 1975–2002 (Stokman et al., 2008, p. 32)

Despite having different urban situations, Beijing city is now in the process of moving towards post-industrial society. In this move, the issue of remnant and derelict industrial land is considered, owing to the relocation of industrial enterprises following an industrial restructuring. Among these enterprises are Shougang, one of China's largest steel companies in Beijing city, and Beijing Coking Plant. Other considerations include the demand for improving urban eco-environmental condition and the integration of fragmental spaces in the urban-rural fringe. The move will likewise exert an influence on the analysis and concepts of Chinese urban landscape and *country parks* inevitably. As Beijing city transforms gradually into a post-industrial society, it will meet challenges that are similar to those met by the two developed regions. To cope with these challenges, more Chinese

large-scale parks will also emerge in these abandoned industrial sites.

In the above consideration, the nature of dynamic cities in countries in North America, Germany, and China results in different levels of urban development. All the same, there are still regular changes in morphologies of cities, according to sophisticated experience of developed cities. From the viewpoint of theoretical analyses, they are concluded through several essential urban models suggesting "the transformation of ordered cities into urbanized regions" as a global urban phenomenon that is occurring equally in both developed and developing countries (Sieverts 2008, p. 253). These inductive urban models "represent ideals of what some people think a city ought to be," but also undoubtedly reflect a relatively direct-viewing analytical method (Shane 2011, p. 346).
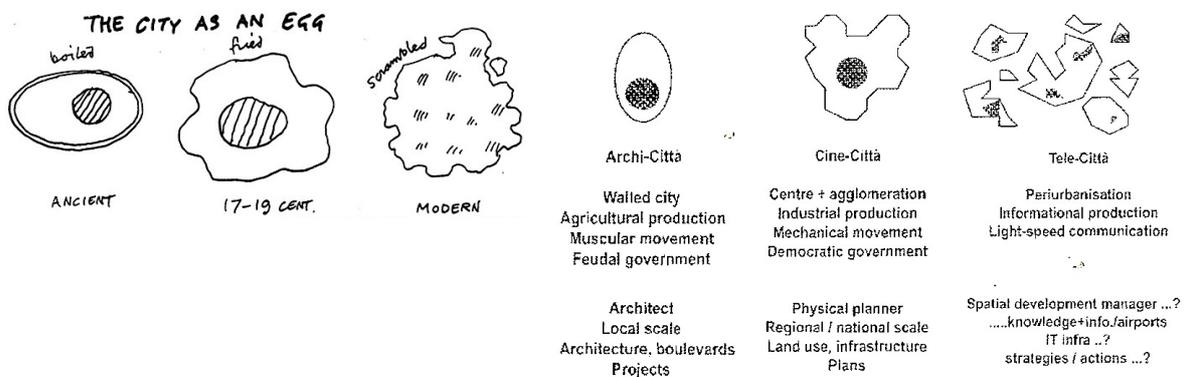
Fig. 3: Cedric Price's "three eggs diagram" in 1982 (Shane 2006, p. 56) (Left)

Fig. 4: ISOCARP identified the renewed urban models in 2001 (Shane 2011, p. 39) (Right)

In this sense, British architect Cedric Price proposed "three city morphologies in terms of breakfast dishes" in 1982. His *three eggs diagram* indicates a transition from traditional and dense city fixed in concentric rings of development within its walls to postmodern city, where everything is distributed evenly in small granules or pavilions across the landscape in a continuous network in Fig. 3 (vgl. Shane 2006, p. 64). This diagram assumes general patterns to express the diffusion of city in the course of space and time. In 2001, the young planners' group of "International Society of City and Regional Planners" (ISOCARP) renewed these three categories of urban models in Fig. 4, probably because the urban spatial environment is increasingly complex and fragmented (vgl. Shane 2011, p. 39).

The general construction of urban models helps to visualize shifting morphologies of cities, but these models are not enough for fully theoretical analyses of a series of deep changes related to urban space and society in developed regions. Hence, more analyses require to be articulated in the following.

Dissolved Urban Structure and Growth of Urbanity

From the perspective of urban space, in the Western world, evident distinctions between city and landscape as well as urban and rural areas had largely blurred at the end of the 20th century (vgl. Bruegmann 2008, p. 55). The situation of dissolved urban structure has been analyzed by numerous professionals. As early as the 1900s, British historian and novelist Herbert George Wells predicted "the probable diffusion of cities" in his book "Anticipations" (1902). He envisaged that "these coming cities will not be, in the old sense, cities at all; they will present a new and entirely different phase of human distribution" (Wells 1902, p. 40).
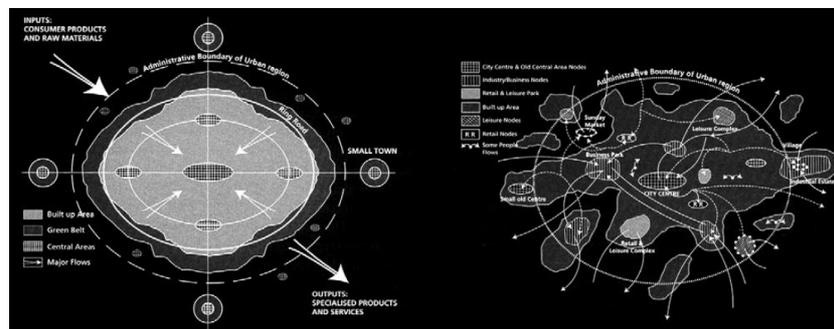
Fig. 5: "Traditional central city-periphery relation and contemporary urban region" (Ipsen et al., 2005, p.41)

However, since the beginning of the last century, with the periphery of city in urban development and even suburbanization and the massive expansion of infrastructure for mobility and production (vgl. Höfer et al., 2010, p. 44), European professionals have proven that the prediction of decentralized *urban regions* has become a reality (vgl. Wolfrum et al., 2008, p. 53). As "sophisticated goods, leisure facilities or workplaces are no longer predominantly concentrated in the central city, but in the urban region, […] one consequence is that the classical 'center-periphery' commuting pattern is displaced by more diverse networks," as shown in Fig. 5 (Ipsen et al., 2005, p. 42). The concept of *urban region* signifies that perforating cities have perforating urban landscapes. In the view of Thomas Sieverts, this concept is indeed a new urban form called *Zwischenstadt* (*In-between-city*), which is "neither city nor landscape" (Sieverts 2003, p. 3). He denoted that "the city is integrated with the landscape, and the old contrast between town and country has already substantially dissolved in favour of a city-landscape continuum" (Sieverts 2003, p. 47). The "city-landscape continuum" not only demonstrates that the landscape no longer lies outside the city, while the city no longer lies in the landscape (vgl. Dettmar et al., 2003, p. 77), but also means that city and landscape, the urban and the rural increasingly demand for being commonly taken into considerations and mutually defining.

Moreover, if the analysis were merely laid on dissolved urban structure with the consideration of the dynamic nature of urban space, contemporary cities would be largely developed into homogeneous entities. With the impact of globalization or Fordism, mobility of urban spaces occurs inescapably, thereby creating a new urban form to a certain extent; in conclusion, such form is characterized by dissolved urban structures with disappeared polarities, embodying a new mix of people and land in a specific society. When the new urban form is endowed with social meanings, including distinctive urban lifestyle and diverse social relations, and cultural value, it transforms into a different city. This is the significance of growing urbanity.

In this regard, growth of urbanity is another aspect of defining contemporary cities. Interpreted from this view, the dissolution of urban structure signifies that old rural lifestyles disappeared, as "most people's spheres of life have long overstepped the boundaries of the local community and have extended to the whole urban region" (Sieverts 2008, p. 257). Essentially, the comprehension of urbanity is influenced by Chicago School's urban sociologist Louis Wirth's idea of "urbanism as a way of life" (Wirth 1938). His idea reveals that "the city is wherever an urban lifestyle is" (Dettmar et al., 2003, p. 76).

The revised understanding of contemporary cities is outlined clearly based on the aforesaid arguments on physical change in urban environment. The semantic shift in cities makes analyses and concepts of contemporary urban landscapes entering into a renewed stage. Contents of this stage could be explained critically as two different theoretical schools of thought about contemporary urban landscapes.

2.2.3 Two Theoretical Schools of Contemporary Urban Landscapes

In the field of landscape architecture, there are more than two kinds of conceptual recognition of contemporary *urban landscapes* that incline toward certain organism and *structuralism* in North America and Germany, respectively. However, the critical approach in the current study helps distinguish intellectually two ranges of different concepts of *urban landscapes*: *landscape urbanism* and *landscape structuralism*. They are two different theoretical schools of urban landscapes, with their own conceptual approaches, ideas, and focuses. The reason for choosing these two categories lies in their intimate connections with current large-scale park concepts and actual projects. This means that two urban landscape frameworks largely support the planning and implementation of many *large park* projects in North America and Germany, such as Fresh Kills Park and Duisburg-Nord Landscape Park. Urban landscapes in these two schools indicate that their critical analyses recommend identifying not only the characteristics of new and the 21st century landscapes but also the manner by which they are conceived in regional, socio-cultural, economic, and ecological

conditions.

Especially notable is the meaning of "school" that could be found in the term *school of thought*; such meaning is "a point of view held by a particular group" in the American Heritage Dictionary definition. Among the North American urban landscape theoretical schools of thought is led by "people who actively write about the theories of landscape urbanism […]: James Corner, Stan Allen, Alex Wall, Charles Waldheim" (Duncan et al., 2010, p. 1). James Corner is among the "thought leaders" (Ibid.) who are associated strongly with concepts and approaches of North American urban landscape and *large parks*, as he had more influence in the research than the others, particularly his *critical thinking* approach as well as ecological ideas infused into the comprehension of 'landscape'. Consequently, the so-called James Corner school of thought is emphasized in this work's explanations.

Accordingly, the *structuralism* is essentially "a school of thought initiated in the early twentieth century by the great linguist Ferdinand de Saussure," according to the explanation of the Dream Encyclopedia (Lewis et al., 2009, p. 204). *Structuralism* has been developed from its origin and influenced by the Dutch movement of architectural *structuralism* since the 1960s (vgl. Peisl 2014, p. 3). Peter Latz is among the German landscape architects who combined *structuralism*'s theoretical parts, such as "the writings of architects like Aldo van Eyck and Herman Hertzberger," (Weilacher 2008, p. 180) to expand its meaning in the German landscape architecture. In this sense, Peter Latz plays a key role and is also considered as among the thought leaders. Hence, the so-called Peter Latz school of thought in this study is used for the further comprehension of German urban landscape and its *structuralistic parks*.

In-depth discussions on urban landscape formulations are conducted based on two sequential stages of urban landscape analyses in North America and Germany: the first analytical stage involves theoretical foundations from the 1970s to the 1980s, whereas the second analytical stage concerns specific theoretical orientations in the 1990s. The transition from theoretical analyses to formulations is shown ultimately in Table. 1. Certain key information is also concluded in Table. 2. James Corner's and Charles Walderheim's ideas contribute to North American urban landscapes and are influenced by J. B. Jackson's 1984 "vernacular-mobile" landscape understanding. Peter Latz's and André Corboz's views play an essential role in German urban landscape concept and are guided by Henri Lefèbvre's 1974 analysis of "social production of space". As aforementioned, James Corner and Peter Latz are regarded as representative personalities of the two theoretical schools of thought, accordingly, owing to their leading *critical rationalism* approaches of *critical thinking* and *critical structuralism* and conceptual organic and 'structuralistic' approaches to urban landscapes.

Table 1: North American and German urban landscape analyses lay foundations for the urban landscape formulations in two theoretical schools of thought (made by the author)

1. North American and German Urban Landscape Analyses
① The 1970s-1980s theoretically analytical foundations—Henri Lefèbvre and J. B. Jackson   —Henri Lefèbvre's analysis: "social production of space," guiding German urban landscape towards the level of "difference" (Lefèbvre 1974)   —J. B. Jackson's analysis: "Landscape Three," a "dynamic system of manmade spaces," impelling North American urban landscape to be process-oriented (Jackson 1984)
② The 1990s North American analysis—"metaphor" as an orientation (Corner 2006)   —Using the landscape metaphor for cities: a metaphorical conceptualization of cities through the "lens" of landscape (Walderheim 2006)   —The ecological metaphor for cities as fluid, living organisms (vgl. Corner 2006, p. 29)
③ The 1990s German analysis—"theoretical construct" as an orientation (Ipsen et al., 2005)   —For inquiring into new urban spaces, the urban landscape understood as theoretical construct that opens up an interdisciplinary path for the analysis and planning of urban regions (Ipsen et al., 2005, p. 42)
2. North American and German Urban Landscape Formulations
① North American *landscape urbanism* with an organic approach   —The organic approach embodying the creative potential of ecology in the field of landscape architecture (vgl. Corner 1997)   —Employing terms, conceptual categories and operating methodologies of field ecology for understanding sites and cities (vgl. Waldheim 2006, p. 43)
② German *landscape structuralism* with a 'structuralistic' approach   —Peter Latz's 'structualistic' idea as a prototype employed to German urban landscapes, highlighting the spatial "structure" with "informational layers," and their relationships, as an approach to landscape analysis and conception (Latz 2008, p. 335)   —André Corboz's landscape viewed as "palimpsest" (Corboz 1983)

Urban Landscape Analyses

① Henri Lefèbvre's and J. B. Jackson's analyses as theoretical foundations

During the 1970s to the 1980s, initial analyses on urban landscapes laid a solid foundation for further exposition of urban landscapes in Europe and North America. Philosopher and sociologist Henri Lefèbvre and cultural landscape scholar J. B. Jackson dedicated several studies conducting such analyses.

According to a sociological perspective in Europe, the comprehension of *urban landscape*

(*urbane Landschaft*) was bolstered at the beginning of the 1970s by Henri Lefèbvre in his book "The Urban Revolution." The sociological influence on urban space stems from German sociologist, philosopher, and critic Georg Simmel 's idea at the turn of the 20th century. Georg Simmel claimed "the city is not a spatial entity with social consequences, but a sociological entity that is formed spatially" (Simmel 2007, p. 22). His idea of urban sociology may play a great role in Henri Lefèbvre's social organization of space that would be interpreted subsequently. In addition, Henri Lefèbvre's urban landscape analysis was established based on a hypothesis of complete urbanization of the world (vgl. Smith 2003). This hypothesis suggests an urbanity into landscape, out of which urban landscape appears. On account of the widespread urbanity, urban landscape would become a global proposition that needs to be discussed continuously and widely.

Moreover, Henri Lefèbvre's research on *urban landscape* could be concluded as two aspects. In the first aspect, compared with dimensions of 'superstructure' and 'infrastructure', the European *urban landscape* is more defined within a scope of "mixed or intermediating" "level M" that is the "specifically urban level" (Lefèbvre 2003, p. 80). More accurately, the *urban landscape* on this level is not only considered to be "green infrastructure" measured as functions and interpreted as metaphors but also analyzed as social and spatial form of nature (vgl. Schöbel et al., 2015, p. 172). This cognition elicits the other analytical aspect of Henri Lefèbvre research, as follows.

The second aspect concerns Henri Lefèbvre's crucial perspective of "social production of space" in 1974. He described, "space is produced and reproduced through human activity and it thus represents a site of struggle and contestation. It is not an empty container simply waiting to be filled" (Lefèbvre 1991, p. 64). "Space and the political organization of space express social relationships but also react back upon them" (Ibid.). Through critique, this idea made increasing geographers, sociologists, and cultural scientists realize that production conditions and social awareness are structuring factors of not only society but also space (vgl. Schöbel et al., 2015, p. 173). In other words, this idea urged many European scholars to discover the role of space in the constitution of social relationships (Ibid.). Therefore, Henri Lefèbvre's understanding of social space in everyday life triggered an essential movement in space-related academic research, namely, *spatial turn*.

However, with the ubiquity of urbanization and globalization, the significance of identifying social space lies in guiding urban landscape into the level of "difference" (Lefèbvre 1991). This point carries huge implications for German urban landscapes to a considerable extent. For Henri Lefèbvre, "(social) space is a (social) product" (Ibid.). Hence, the 'difference' in every society is unfolded through every distinct mode of production that produces a certain space of its own society. The interaction between urban space and complex social construction leads to the 'difference'. According to Geman landscape architect Stefan

Körner, urban landscape in specific socio-cultural context could be shaped intendedly and unintendedly as every-day-use-related landscape design; this design might no longer be related to Arcadian harmonies on the super level, but nonetheless point to *Eigenart*, which refers to the concept of the character of a culture or space that is signified by the term *Eigenart* in German, and hence, are full of character (vgl. Körner 2013, p. 134). The focus on 'difference' in the early stage of urban landscape analysis leads to the theoretical orientation of German urban landscapes during the 1990s, which is also explained in the following part .

Beside Henri Lefèbvre's analysis and influence in Europe, during the early 1980s, another important scholar is J. B. Jackson, whose contribution to urban landscapes in both North America and Germany is to rebuild a modernized understanding of the term 'landscape' (vgl. Höfer et al., 2010, p. 40). J. B. Jackson's analysis is uncovered continuously by North American and European scholars when they tend to explore the essence of landscape: whether "an ideal aesthetic construct, a physical place of human interaction, or both ideal and object" (Ibid.).

For J. B. Jackson, the repositioning of 'landscape' in its contemporary meaning boils down to "vernacular-mobile" landscape proposed in his 1984 book "Discovering the Vernacular Landscape." In a broad sense, his consideration is based upon a cultural perspective. Against sociocultural backgrounds, the definition of 'landscape' varies as specific territories. This aspect stimulated increasing landscape architects to explore actively the unique relation between social and spatial changes over time and the creation of their own organizations of spaces. For J. B. Jackson, the "vernacular landscape" could be conceived in a distinct way of "define and handle time and space" (Jackson 1984, p. 150). The key of distinct way lies in realizing a juxtaposition of reality and ideal, that is, "mobility" and "permanence" in the concept of landscape (Ibid.). He deliberated their correlation and believed that contemporary landscape is not always in a state of permanence:

> "A landscape, like a language, is the field of perpetual conflict and compromise between what is established by authority and what the vernacular insists upon preferring. […] Whatever definition of landscape we finally reach, to be serviceable it will have to take into account the ceaseless interaction between the ephemeral, the mobile, the vernacular on the one hand, and the authority of legally established, premeditated permanent forms on the other." (Jackson 1984, p. 148)

In contrast, the reality, one's everyday world, in a contemporary urban landscape (concluded as the everyday landscape) means landscape "in mundane terms" (Jackson 1984, p. 147). One could find identity from his/her daily lives, leading him/her to see critically a

"landscape as something more than beautiful scenery" (Ibid.). For J. B. Jackson, the everyday world appropriated by various kinds of individuals may form the everyday landscape that is subject to temporary mobility and change. The temporary mobility and change offer a possibility of local self-determinacy or self-organization by various ordinary people under the idea of social equality and liberty. According to Wolfram Höfer's analysis, the self-determinacy means people change landscape gestalt without a predetermined purpose in the process of living in the land temporarily (vgl. Höfer et al., 2010, p. 50). In an ideal and long-standing cognition, 'landscape' is "a vista or view of scenery of the land," "a work of art," and "a kind of supergarden" (Jackson 1984, p. 152), mainly because the perception of landscape is derived from tangible nature and the "organic unit of organic society" (Höfer et al., 2010, p. 49), which is an ideal social order.

Hence, in J. B. Jackson's landscape concept, there is a co-existence of "Landscape Two," "a landscape identified with a static, very conservative social order and that there can be only one true philosophy of nature" (Jackson 1984, p. 155), and "Landscape Three," a "dynamic system of manmade spaces" that is elaborated as follows:

> "Landscape is not scenery, it is not a political unit; it is really no more than a collection, a system of man-made spaces on the surface of the earth. Whatever its shape or size, it is never simply a natural space, a feature of the natural environment; it is always artificial, always synthetic, always subject to sudden or unpredictable change. We create them and need them because every landscape is the place where we establish our own human organization of space and time. It is where the slow, natural processes of growth and maturity and decay are deliberately set aside and history is substituted. A landscape is where we speed up or retard or divert the cosmic program and impose our own." (Jackson 1984, p. 156)

Moreover, the co-existence of these two kinds of landscape concept may lead to a "dilemma" (Prominski 2010). This situation indicated by German landscape architect Martin Prominski informs landscape architects not to fall into a simplistic perspective, that is, "either one or the other" (Beck 2007). In spite of the "dilemma," J. B. Jackson's analyses of "Landscape Two" and "Landscape Three" demonstrate that it is necessary to use a critical perspective with respect to landscape definition and conception. Ultimately, North American landscape architecture, which adopted the ideas of J. B. Jackson, shifted its attention from ideal and permanent landscape with harmonious, beautiful, and natural characteristics to mundane and everyday landscape with realistic, dynamic, and unpredictable urban characteristics.

In conclusion, on the basis of the aforementioned urban landscape analyses in North America and Europe, the second analytical stage provides that theoretical orientations have

unfolded since the 1990s, because urban landscape concepts "do not only describe realities, but suggest orientations" (Wolfrum, et al., 2011, p. 7). The orientation is considered as either a "metaphor" (Corner 2006, p. 23) in the North American analysis or a "theoretical construct" (Ipsen et al., 2005, p. 42) in the German analysis.

② **The 1990s North American analysis of urban landscape: metaphor as the orientation**

Since the 1990s, North American urban landscape analysis reflects *metaphor* as orientation. James Corner epitomized the 'landscape,' which affords a range of "imaginative and metaphorical associations" (Corner 2006, p. 23). Essentially, *metaphor* refers to a metaphorical conceptualization of cities by the "lens" of landscape stated by Charles Waldheim in his 2006 "A Reference Manifesto," with cultural embedding of *imagination* in Fig. 6. That is to say, 'landscape' is regarded as a conceptualized model of describing and envisioning contemporary cities. Through *metaphor*, there is an essential shift in understanding North American cities from the perspective of landscape, which has been summed up in a hypothesis of "landscape as urbanism" (Waldheim 2006). This shift verifies Rem Koolhaas's 1998 definition of 'landscape' as the "primarily element of urban order" and Charles Waldheim's 2006 definition as the "medium" to construct city. This shift also makes the meaning of 'landscape' recover from "a framed static picture to acting as operational and perforative" in Fig. 7 (Assargård 2011, p. 43). For this static and scenic image of the landscape, James Corner criticized: "here, landscape is nothing more than an empty sign, a dead event, a deeply astheticized experience that holds neither portent nor promise of a future" (Corner 1999, p. 156).
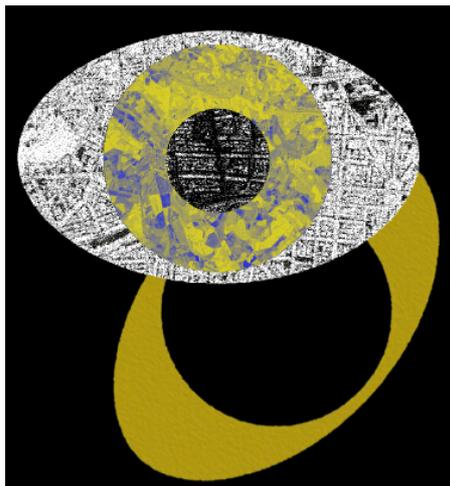

Fig. 6: Landscape as a "lens" to conceive of contemporary cities (Assargård 2011, p. 65))

Moreover, the analogy between city and landscape is further drawn by the sciences of

ecology, which is an indispensable potential factor. Consequently, through the ecological metaphor, "the city is like a landscape" and "will function like a landscape" (Tully 2013, p. 438). American landscape architects Chris Reed and Nina-Marie Lister mentioned an influence of the sciences of ecology, "the past two decades have witnessed a resurgence of ecological ideas and ecological thinking in discussions of urbanism, society, culture and design" (Reed et al., 2014). They also articulated a tendency in ecological sciences that have moved away from "classical determinism and a reductionist Newtonian concern with stability, certainty and order, in favor of more contemporary understandings of dynamic systemic change and the related phenomena of adaptability, resilience and flexibility" (Ibid.). These concepts in the critical cognition of ecology are seen as "models or metaphors for cultural production" (Ibid.).
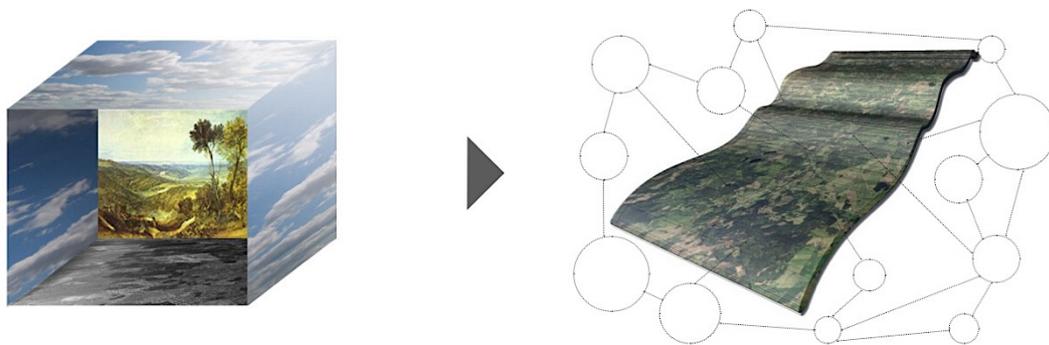
Fig. 7: The meaning of North American landscape shifts "from a framed static picture to acting as operational and perforative" (Assargård 2011, p. 43)

In this work, *metaphor* could be understood properly through ecology or precisely dynamic, fluid, complex, and indeterminate ecosystems known by both ecologists and landscape architects particularly beginning in the 1980s. This understanding is a result of scientific studies and discoveries as regards dynamic ecosystems and, subsequently, newly emerging ecological ideas that have entered into the field of landscape architecture in the wake of *landscape urbanism* program. This represents ecological changes in ecosystem paradigm and relevant innovative views on nature. The conceptual changes caused by ecology are related intimately to not only the mid-1990s *landscape urbanism* but also its implementation of North American *large parks*. These specific ecological changes will be discussed in detail in Chapter 3 (see pp. 47–48).

To proceed from the point of ecological *metaphor*, North American landscape architects tended to imagine city to be fluid living organisms before James Corner presented the idea of "a more organic, fluid urbanism" (Corner 2006, p. 29). In this sense, city, landscape, and ecology are considered in an integrated approach. The *metaphor* also becomes the key to

analyze North American urban landscape and ecology, which will be deduced as among the comparative aspects in Chapter 5 (see pp. 111–112), together with landscape understanding, and landscape and life.

In North American landscape architecture, the *metaphor* of ecology is manifested apparently in a philosophy of "interconnection and codependency between organisms and environments, between objects and fields" (Weller 2006, p. 74). All things are interconnected to each other on the extensive urban surface. Owing to such interconnection, Richard Weller asserted that "the city in mind here is not a place or just 'a' system, but a part of all processes and systems, a field which covers and makes up the world at any given time" (Weller 2006, p. 78). Guided by the philosophy, proponents of *landscape urbanism* are concerned with the ecological *metaphor* so that they prioritize the relationships between things over objects alone.

In general, the *metaphor* becomes among the most distinguishing features of *landscape urbanism*; it has exerted a potential influence on North American *large park* concept. As Julia Czerniak and George Hargreaves pointed out collectively and clearly, the 2007 book "Large Parks" following Charles Waldheim's 2006 work "The Landscape Urbanism Reader" is another key direction to promote the exploration of North American urban landscape progress. In other words, *landscape urbanism* is linked with our research proposition *large parks* inextricably, with an organic approach that will be argued in Chapter 3 fully (see p. 46).

③ **The 1990s German analysis of urban landscape: theoretical construct as the orientation**

The term *urban landscape* is mentioned as a category of space in German analysis in the early 1990. Sören Schöbel's point of view is recognized as 'a relatively young but (widespread) common technical term,' and used by summing up the following various phenomena that have been well known in the professional field: *suburban area*, *city without city* (*Zwischenstadt*) (Sieverts 1998), *city landscape*, *city region*, *sprawl*, *periphery*, *commuter belt*, *urbanization*, and so on (vgl. Schöbel 2013, p. 5).

As regards the phenomena of urban spaces, German *urban landscape* possesses its own theoretical orientation. "As a core concept for inquiry into these new urban spaces," Detlev Ipsen and Holger Weichler "propose the term 'urban landscape'" (Ipsen et al., 2005, p. 42). It is a term that one does "not understand as a metaphor, but rather as theoretical construct that opens up an interdisciplinary path for the analysis and planning of urban regions" (Ibid.). The "interdisciplinary path," in Sören Schöbel's explanation, implies "various space-describing and space planning disciplines, such as geography, sociology of space, urban studies/urban development, architecture, and landscape architecture" (Schöbel 2013, p.

5).

Specifically, two aspects support urban landscape as a *theoretical construct*. According to Sören Schöbel's opinion, they could be concluded as urban landscape, which is essentially associated with urbanity, and urban landscape, with a change in urban spatial structure, which are expressed as follows:

> "On the one hand, urban landscape describes the complete urbanization of space analytically (i.e. the overall expansion of urban designs, infrastructure and lifestyles). On the other, however, it programmatically describes experiments to detect and design new relations in fragmented areas which neither city nor country." (Ibid.)

Most notably, in the process of *theoretical construct*, underlining the 'difference' within the ubiquitous urbanity becomes a core. European scholars, such as Henri Lefèbvre (1974; 1991), Thomas Sieverts (2008), and Sören Schöbel (2015), have put forward explicitly the 'difference'. Basically, the essence of 'difference' could be traced back to Henri Lefèbvre's "social production of space," which has been analyzed above (see p. 31). Further, in Thomas Sieverts's view of "fragmented urban landscapes" in 2008, he summarized to improve their quality as one central point: "urban landscapes as new forms of urbanity can only become productive if they can develop their own particular characteristics, which lead to productive distinctions in economy and culture" (Sieverts 2008, p. 263). He stated that with regard to the area's own distinct characteristic the 'difference' must be the first element of design and, thus, there is "the need for quality improvement" (Sieverts 2008, p. 255). In addition, Sören Schöbel supported the 'difference' through treating urban landscapes as "specifically describable landscapes," rather than as "featureless" or "generic" areas (Schöbel 2013, p. 5). The primary reason for such treatment is that urbanization and globalization are presumed to not lead to indistinguishable and generic cities but reinforce the 'difference' through which landscape as specific forms of urbanity could be developed (vgl. Schöbel et al., 2013, p. 137).

Through the urban landscape analyses in two stages of different theoretical foundations and orientations in North America and Europe, the formulations of *landscape urbanism* and *landscape structuralism* could be further analyzed in the following part.

North American Landscape Urbanism with an Organic Approach

In the mid-1990s, the emerging notion of *landscape urbanism* was "an initiative born in North America" (Thompson 2012, p. 8). Two relatively immediate factors play a part in its

emergence. Above all, its supporters, who searched the theoretical framework in the writings of early regional planners, including Patrick Geddes, Benton MacKaye, Lewis Mumford, and particularly Ian McHarg, recognized that *landscape urbanism* could benefit directly from the canonical texts of regional environmental planning (vgl. Waldheim 2006, p. 39). Moreover, *landscape urbanism* is regarded as "a robust alternative to the failures of modernist urban planning" (Tully 2013, p. 438). The origin of *landscape urbanism* could be traced to postmodern critiques of modernist architecture and planning; the early critiques came from the field of architecture in as early as the 1980s, and then expanded to the field of landscape architecture (vgl. Waldheim 2006, p. 38). Charles Waldheim, one of the staunch advocates of *landscape urbanism*, stated its strength that "offers an implicit critique of architecture and urban design's inability to offer coherent, competent, and convincing explanations of contemporary urban conditions" (Waldheim 2006, p. 37).

As *landscape urbanism* program emerged with critical attitude, the concept of 'landscape' is defined as having a focus on process and systems philosophy instead of the former focus on pastoral images (vgl. Reed et al., 2014; Höfer 2015). "A hallmark of landscape urbanism is the understanding of ecological systems and the knowing of processes that constitutes them" (Gray 2006). As discussed in the ecological *metaphor* (see pp. 33–36), the newly defined concept of 'landscape' is fostered owing to the intersection of ecological sciences and landscape architecture. In the *landscape urbanism* framework, an organic approach is supported through the understanding of the role that ecological sciences play.

Landscape urbanism certainly draws upon "terms," "conceptual categories," and operates methodologies of field ecology for the understanding of site and city (vgl. Waldheim 2006, p. 43). The *terms*, such as "diversification, flows, complexity, instability, indeterminacy, and self-organization become influential design generators, shaping the way we consider and construct places" (Corner 1997, p. 100). These *terms* broaden landscape architects' horizons to analyze and highlight the occurrence of spaces and spatial performance, that is, effectiveness on their conceptual urban field with the permanent fluidity and adaptation. These *terms* also represent an organic approach to shape spatial processes and interpret natural systems.

Meanwhile, "conceptual categories" as "movement diagrams" are also employed actively from the landscape-ecological perspective (Reed et al., 2014). These *categories* are developed by Richard T. T. Forman based on his ecological research on "the availability of LandSat imagery and computer-aided geographic information systems analysis during the 1980s and early 1990s" (Ibid.). The *conceptual categories* are known as *patches*, *edges*, *corridors*, *mosaics*, and *matrice*, among others, which will be used mostly by North American landscape architects to establish an overall conceptual diagram for concrete urban landscape, such as North American *large parks*, that will be illustrated by their project cases.

These *conceptual categories* become essential dynamic patterns to understand ecosystems that are described as matrices and networks, and characterized by adjacencies, overlaps, and juxtapositions (vgl. Forman et al., 1996; Reed et al., 2014). With landscape-ecological research on ecosystems, these categories' dynamic living nature not only embraces physical elements but also supports movement and exchange of substance with changing conditions; it is also increasingly accepted by landscape urbanists. The processes of redefining the *conceptual categories* and discovering the *terms* also imply a radical paradigm shift of ecosystems from *equilibrium* to *non-equilibrium*. These processes and their resulting paradigm shift will be explored in Chapter 3, which covers *large parks* with newly emerging ecological ideas (see p. 47).

Landscape urbanism absorbs the *terms* and *conceptual categories* in the ecological field to build up its own organic approach to conceive urban landscapes. Perhaps, among the most active advocates of this approach in the field of landscape architecture is James Corner, who urged the creative potential of ecology in his 1997 essay, titled "Ecology and Landscape as Agents of Creativity." His influence of ecological ideas on urban landscapes also explains a reason why James Corner school is identified in the research as one of urban landscape schools of thought (see p. 28). With his *critical thinking*, James Corner claimed "a creative relationship with ecology for exploiting a potential that might inform more meaningful and imaginative cultural practices than the merely ameliorative, compensatory, aesthetic, or commodity oriented" (Corner 1997, p. 82). In his *cultural imagination*, 'landscape' comes down to "innovative cultural agent" (Corner 1999, p. 4).

The organic approach is crucial for both *landscape urbanism* and *large parks*, a conceptualized imagination for projecting large-scale parks in future. Largely associated with *landscape urbanism*, the North American *large parks* model with an organic identity, based on ecosystem dynamics and processes, which will be completely expounded in Chapter 3 (see p. 47–49).

German Landscape Structuralism with a Structuralistic Approach

In the early 20ᵗʰ century, the concept of *structuralism* in Europe developed in the field of structural linguistics (vgl. Deleuze 2002, p. 170). This concept was introduced as an important avant-garde movement into European architecture and urban design beginning in the 1960s on account of criticizing modern *functionalism* (vgl. Weilacher, 2014, p. 225). The movement of architectural *structuralism* and its influence on German *landscape structuralism* are dissected in detail later in the section of German *large parks* with the 'structrualistic' approach in Chapter 4 (see pp. 94–97), because the understanding of German *landscape structuralism* is reflected in one of the essential

manifestations—*structuralistic parks* model.

Since the 1960s, an understanding of meaningful 'structure' has played a role in the field of architecture and urban design, where proponents of *structuralism* claimed:

> "We are faced with the necessity of evolving structures and forms, which can develop in time, which can remain a unity and maintain the coherence of the components at all stages of their growth. The absence of this must lead to selfdestruction." (Bodegraven 1952; 1959)

Realizing the significance of 'structure', Swiss architectural theorist Arnulf Lüchinger defined the concept of 'structure' as a whole of relations in which elements could shift, but they still keep independent upon the whole and maintain their meaning. The elements' interrelations are more important than themselves; the elements are replaceable, rather than their relations (vgl. Lüchinger 1981, p. 16). Emphasizing the relations instead of every single element, the 'structure' may offer an open system for adaptable spaces to further urban development and flexible transformation, compared with pre-establishing urban spaces for mere satisfying functions, according to modern *functionalism*.

Precisely under these influences, at the beginning of the 1980s, the theoretical application of *structuralism* emerged in German landscape architecture, which apparently led to the development of parks characterized by diverse legibility, flexible availability, and site-specific and historic links (vgl. Weilacher 2014, p. 225). German landscape architect Peter Latz generated a profound impact on German large-scale landscape architecture and parks based on his predecessors' ideas of *structuralism*. According to Udo Weilacher's statement, "Peter Latz found his way to structuralism via the writings of architects like Aldo van Eyck and Herman Hertzberger, the philosopher Claude Levi-Strauss, the astrophysicist Fritz Zwicky and the designer Horst Rittel" (Weilacher 2008, p. 180). Exactly in his unique way to understand the *structuralism*, Peter Latz school is defined as one of the urban landscape schools of thought in the above discussion (see p. 29), in parallel with James Corner school.

Peter Latz's explanations of *structuralism* should be grasped in a broad way, from the sociocultural perspective. In this sense, according to philosopher Simon Blackburn's point of view, *structuralism* is "a throretical paradigm emphasizing that elements of culture must be understood in terms of their relationship to a larger, overarching system or structure" (Blackburn 2008). This means that behind a one-of-a-kind sociocultural condition, there are always a group of key structural systems that depend on their significance.

Consequently, Peter Latz transferred the idea of architectural *structuralism* into an analytical and designing method by inventing "informational layers" (Latz 2008b, p. 335). The concept of *information* from Peter Latz's point of view will be explained in detail in Chapter 4 (see pp. 92–93). A large amount of *information*, including "existing, visible landscape elements" or "invisible layers of information" (which, for example, may consist of the memory of a place or be based on experience) (Ibid.) are naturally rooted within the specific, complex sociocultural context. Not only they constitute the understanding of site but also "make a significant contribution to the construction of landscape" (Ibid.). The deep understanding of site sociocultural history and characteristics, by means of the *information* system, may be impacted by the concept of "palimpsest" proposed by André Corboz in 1983. He outlined that "how the land, so heavily charged with traces and with past readings, seems very similar to a palimpsest" (Corboz 1983, p. 8). In site transformation, a series of crucial *information* is regarded as "vestiges" of site that could be used as "elements, as reference points, as accents, as stimulants for our own planning" (Ibid.). The conversion process is "a more intelligent intervention" (Ibid.).

Moreover, Peter Latz's 'structuralistic' approach guides the concept of landscape into a way of ongoing analysis. As Peter Latz explained, "the exciting thing about this method is that the analysis becomes an integral part of the model and is not separated from the design process, as tends to be the case in landscape planning, for example" (Latz 2006 unpublished lecture, quoted in Weilacher 2008, p. 181). This approach has been perceived as important in processes of planning and design, owing to its advantage in terms of holistic analysis, which has been pointed out by Udo Weilacher: the 'structuralistic' approach becomes valid in large projects where the size of the site alone makes it impossible to design each square meter individually (vgl. Weilacher 2008, p. 35).

In landscape analysis, when a complex, built landscape systems at large scale is considered, the 'structuralistic' approach is offered for disassembling different and overlapping analytical structural levels. German landscape is hereby considered as *Gefüge*, namely, a spatial structure composed of superimposed structural levels (vgl. Weilacher 2014, p. 226). Levels of water systems, transportation systems, open space systems, building structures, and additional relevant networks are separately contemplated for analytical purposes and analyzed for specific problems (Ibid.).

This chapter discussed the two ranges of contemporary *urban landscapes*, two analytical hypotheses, and two theoretical frameworks that developed over time and supported by *critical rationalism* approaches. They are inseparable from the urban dissolution crisis caused by post-industrialization in North America and Europe. In both regions, concrete urban landscapes rely on their underlying, implicit, but strong regional cultural embedding. Such approach is commendable in terms of continuous urban landscape improvement.

In the research hypothesis, these existing debates and discussions on *urban landscapes* in two cultural conditions will drive their large-scale park models to remarkably different ways, leading to the latter two chapters. Similarly, two park models are bound up with social uses, ecological functions, and their own cultural identities, which are expressed in five park qualities. Through the critical approach, North American organic model of *large parks* within the post-industrial perspective is considered as 'large-scale infrastructural landscape' for contemporary practices of *landscape urbanism*. On the contrary, a mirror of *landscape structuralism* practices is Germany's 'structuralistic' model of *large parks* within 'large thinking' for the whole region; this model is planned and implemented with the changes of socioeconomic structures and ecological understanding.

The term *large parks* was coined in the North American academe, which takes the lead in uncovering the exploration of large-scale landscape architectural concept for urban landscapes, particularly concerning certain groundbreaking ideas on urbanism and ecology. Thus, in the next chapter, the North American *large parks* are first explained, and then the other two park models in Germany and China follow. The theoretical analysis and project statement of North American *large parks* are part of the first step of discussion in preparation for comparing between North America and Germany.

Table 2: Analytical and theoretical stages of explaining urban landscapes in North America and Germany (made by the author)

Contemporary Urban Landscape	Europe	North America
1. Analytical stage		
Approximate time	At the beginning of 1970s	During the early 1980s
Representative Personality	Henri Lefèbvre	J. B. Jackson
Perspective	—The ubiquitous globalization and urbanization —Urban landscape conception in everyday world	
Emphasis	"Social production of space" (Lefèbvre 1974) characterized by "difference" (Ibid.)	"Vernacular-mobile" landscape (Jackson 1984)
2. Theoretical stage	**Germany**	**North America**
Theoretical Orientation	As a "theoretical construct" (Ipsen et al., 2005, p. 42)	As a "metaphor" (Corner 2006, p. 23)
Theoretical School of Thought	German *landscape structuralism* School of thought	North American *landscape urbanism* School of thought
Emergence	Since the 1980s	In the mid-1990s
Representative Personality	Peter Latz	James Corner
Practical Project	Duisburg-Nord Landscape Park, Riemer Park	Fresh Kills Park, Downsview Park
Conceptual Approach	German urban landscapes and *structuralistic parks* with the 'structuralistic' approach	North American urban landscapes and *large parks* with the organic approach
Focused View	View of *structuralism* in German landscape architecture	"Pragmatic and processual view" in North American landscape architecture (Prominski 2010, p. 59)

3 Conception of North American Large Parks

The cross-cultural study on three park models embraces contemporary views on *urban landscapes* in countries in North America, Germany, and China; specific organizational forms; and planning projects of reconstruction, redevelopment, and transformation. On the basis of such views, North American *large parks* become the starting point of discussion. Given the rising ecological insights emerging as *metaphor* for North American urban landscape, *large parks* are the process-oriented park model for the integration of urban infrastructure and dynamic ecosystems. Many North American urban projects are currently guided by *large parks* to build a conceptual framework between urban form, dynamic environmental processes, and everyday life.

As a primary and distinct model of contemporary large-scale parks, *large parks* will be discussed in a creative cultural setting. Regarding its research background, James Corner in 1999 provided a potent expression of *cultural imagination*, produced by his critical approach of *critical thinking* to understand the present-day North American urban landscape. The *cultural imagination* containing infinite creativity as a cultural embedding indicates that *large parks* will be conceived with emerging ideas of urbanism and ecology; it will be qualified on aspects of size, social, and ecological qualities from both quantative and qualitative perspectives.

3.1 Large Parks in the Creative Cultural Context

Aiming at handling the global challenge of site transformation especially on mostly messy and contaminated derelict industrial land (see p. 13), the academe concerning North American landscape architecture developed *large parks*, an ingenious large-scale park model with an organic approach. This section verifies that the production of a distinct definition is rooted deeply in its own creative cultural context.

From a creative perspective, there have always been strong beliefs in North American professionals with respect to progress in interpretations of landscapes (vgl. Höfer 2013, p. 79). Specifically, in research, these professionals are scholars who lay a solid foundation for urban landscape development, such as J. B. Jackson, Ian McHarg, Denis Cosgrove; proponents of *landscape urbanism*, such as Charles Waldheim, James Corner; and initiative promoters of *large park* model, such as Julia Czerniak, Elizabeth K. Meyer, Nina-Marie Lister, and Linda Pollak. In general, theses professionals nurtured a creative theoretical environment, and their views were related to the concept of *large park*. Notwithstanding, the creative cultural setting for the emergence of *large parks* is considered in James Corner's

viewpoint of *cultural imagination*. This will be discussed in the subsequent section (see pp. 55–57)

In James Corner's *critical thinking*, contemporary North American landscape is recovered as "a critical cultural practice" that "enriches cultural world through creative effort and imagination" (Corner 1999, p. 1). The "creative effort and imagination" (Ibid.) that James Corner argued are intimately linked to J. B. Jackson's innovative analyses of "dynamic system of manmade spaces" in 1984, and postmodern re-interpretation of space from cultural geographers Denis Cosgrove and Stephen Daniels in 1988. As regards the former, J. B. Jackson's contribution to the evolving understanding of urban landscape has been remarked in the previous chapter (see pp. 32–33). Concerning the latter, James Corner in 1999 quoted the following paragraph in "Iconography and Landscape" to elaborate the nature of landscape.

> "From a postmodern perspective, landscape seems less like a palimpsest whose 'real' or 'authentic' meanings can somehow be recovered with the correct techniques, theories or ideologies, than a flickering text displayed on the word-processor screen whose meaning can be created, extended, altered, elaborated and finally obliterated by the merest touch of a button." (Daniels et al., 1988, p. 8)

Apparently, James Corner advocates postmodern idea of space. Within this framework, the genuine development of North American urban landscape more relies on multiple landscape ideas to create, change, and compound spaces than inherently physical characteristic to obtain site information, organize specific space, and form structural connections between spaces. The two different facets constitute the main conflict between understanding of North American and German landscape, which are distinguished by comparison in Chapter 5 (see pp. 110–111).

The postmodern perspective supports James Corner's essential landscape understanding that it is an integration of "idea and artifact" (Corner 1999). The 'landscape' is constructed by both imagined and material parts. He specially emphasized that "only through a synthetic and imaginative reordering of categories in the built environment might we escape our present predicament in the cul-de-sac of post-industrial modernity, and the bureaucratic and uninspired failings of the planning profession" (Ibid.).

According to James Corner's idea, the concept of *large parks* is conceived by expounding the new perspectives, including two newly emerging ideas on urbanism and ecology. Further, with a critical attitude towards pastoral landscapes, the new perspectives contain four

concrete aspects, contrary to stereotypical perspectives of conventional 19th century parks.

3.1.1 Large Parks Conceived from New Perspectives

In the North American academe, the term *large parks* derives from a series of analyses and debates on contemporary large-scale parks. Among these are the 2003 conference, titled "The Large Parks: New Perspectives Conference," which was held at the Harvard University Graduate School of Design (GSD), and subsequent GSD students' studies on specific park cases. At this conference, five essential aspects surrounding *large parks* are identified, namely, "parks and site history: the made and the remade"; "parks and the city: the urban, the peripheral, and the post-urban"; "parks and ecology: sustainable design and maintenance"; "parks, processes, and place"; and "parks and the public" (Fulton 2003, p. 171). These five aspects are known as the most noteworthy parts from which certain key points for *large parks* are deduced in the following discourse.

The first facet of "the made and the remade" suggests that *large parks* are "not simply natural or found places; they are constructed, built, and cultivated—designed" (Corner 2007, pp. 12–13). Connected to the postmodern perspective, *large parks* are certainly shaped by integrative forces of both human and nature. The other four facets may be categorized into two crucial points: urbanism and ecology in a renewed sense. They are considered as two newly emerging ideas defining *large parks* "in flux" collectively (Czerniak 2001, p. 14).

Two Newly Emerging Ideas on Large Parks

In general, the recognized 'landscape-based urbanism', that is, urbanism shifting towards landscape, touches upon *landscape urbanism* advocated by Charles Waldheim in "The Landscape Urbanism Reader" (2006). In Meg Studer's interview published in 2012, Charles Waldheim expressed today's *landscape urbanism* as "the question of energy, resource extraction, production, and flows in relationship to urbanism". And "Landscape urbanism aspires to build an understanding of urbanism in which ecological forces and flows that support urbanism are considered as part of the city as opposed to external to it". As a result, he considered the renewed urbanism is a response to criticize older models of urbanism in which a city is distinct from a countryside, and energy and substance are viewed as externalities to city problem, which made a city vulnerable.

Aside from Charles Waldheim's argument on the understanding of urbanism, James Corner offered another explicit statement. Given the nature of dynamic and process-oriented urbanization happening in current North American cities that is identified by urban planners and landscape architects, he conceptualized "a more organic, fluid urbanism" (Corner 2006,

p. 29) as horizontal urban surface strategies. His further assumption of "urbanism" plays an immediate part in the production of the concept of *large parks*. The features of "organic, fluid" is connected to the organic approach.

In their interpretations, the updated urbanism concept is an urban landscape phenomenon with the characteristic of horizontal "urban sprawl," a term that American landscape architect Alan Berger considers as a reasonable expression in 2006. Through Charles Waldheim's aspiration of landscape as a "medium" of a city, the urban landscape would remove conventional boundaries between city and nature, and city and countryside. Rather, the urban landscape is bound up with fluid and continuous urban "surface" or "field" on which the "complex interweaving of natural ecologies with the social, cultural, and infrastructural layers of the contemporary city" is established conceptually (Waldheim 2006, p. 48). *Large parks* cross the spatial line and will stretch out on this wide urban surface to display "landscape as urbanism" fully (Ibid.). Projects of Downsview Park and Fresh Kills Park are representative of the trend and offer "the most fully formed examples of landscape urbanism practices to date applied to the detritus of the industrial city" (Waldheim 2006, pp. 46–48).

Another newly emerging idea of ecology is provided in Ian McHarg's "Design with Nature" in 1969; undoubtedly, it has maintained a profound influence. Since its publication, "landscape architects have been particularly busy developing a range of ecological techniques for the planning and design of sites" (Corner 2006, p. 30). For instance, state-of-the-art ecological restoration and engineering techniques were used to construct the Fresh Kills Park. Associated with ecological techniques, "sophisticated engineering systems," including "Leachate Management System," "Landfill Gas Collection System," and "Capping System," are designed to collect and treat leachate, methane, and byproducts of waste decomposition, as well as to insulate all contamination (New York City Department of Parks & Recreation 2012).

Ian McHarg's historical importance is acknowledged not only for promoting the development of ecological techniques but also by proponents of *landscape urbanism*. In particular, using "deterministic approach to ecological and land-use planning," he brought landscape architecture into "broader visibility as a productive practice essential to 'solving' environmental 'problems'" (Hirsch 2014, p. 14). Under this premise, landscape urbanists further broaden Ian McHarg's approach to the role of *cultural imagination* in landscape architecture. They declared a conceptual approach of *matrix* as a dynamic framework. Simultaneously, they developed an understanding of "space-time ecology that treats all forces and agents working in the urban field and considers them as continuous networks of inter-relationships" (Corner 2006, p. 30). The emerging ecology embraces energy, substance,

and their interactions pertaining to the living and organic urban surface; this emerging ecology is increasingly regarded as central in reconceiving city and urban landscape.

In fact, the ecology reflected in *landscape urbanism* illustrates that based on Ian McHarg's concept, the new ecological idea has emerged since the 1980s, and it was then introduced into landscape architecture and *large parks* in the 1990s. The development of ecological viewpoint presents as a paradigm shift from *equilibrium* to *non-equilibrium* or dynamic flux in ecosystems (vgl. Pollak 2007, p. 98), with "climax community" being questioned in the 1950s.

In the *equilibrium* paradigm, the concept of "climax community" was employed by American ecologist Frederic Clements in his 1916 work "Succession". It means that an ecological community may finally reach a steady state through a process of ecological succession. The "community" maintains the equilibrium condition until a *disturbance* happens. In this conceptual situation, the key point is the *disturbance*, which is considered as external to the ecosystem (vgl. Rosenberg 2007, p. 225). Frederic Clements's concept of "climax community" dominated ecological research for the first half of the 20th century, before it was questioned (Ibid.).

In the 1980s, the *equilibrium* paradigm was challenged "by statistical and probabilistic approach that have revealed *disturbance* to be a frequent, intrinsic characteristic of ecosystems" (Ibid.). In other words, in the face of an untenable assumption of ecosystem, excluding the *disturbance*, considerable scientific studies have been conducted by relevant scholars to redefine the model of ecosystem development. Among which, Canadian ecologist C. S. Holling's dynamic model in 1992 was proposed to reinterpret the nature of ecosystems, which will be further explained in this chapter (see p. 67). In this model, *resilience* pertaining to ecosystems become an inherent property showing its adaptive capacity. The notion of *resilience* is associated with urban landscape's "new sustainability" stated by Nina-Marie Lister in 2015. Even though it is among the characteristics of *large parks*, it is added into the qualitative analysis.

In short, with the scientific research and published evidence in the field of ecology, the *non-equilibrium* paradigm, as Linda Pollak asserted, "reframes nature in terms of its continual disturbance, rejecting the previous scientific 'truth' of organic nature's tendency towards either equilibrium or homogeneity" (Pollak 2007, p. 98). The *disturbance* has been accepted as a part of ecosystems in the *non-equilibrium* paradigm that is delineated concretely by Nina-Marie Lister:

> "[…] we've seen the paradigm of ecology move toward a more organic model of
> open-endedness, flexibility, resilience, and adaptation and away from a mechanistic

model of stability and control. In other words, ecosystems are now understood to be open systems that behave in ways that are self-organizing and that are to some extent unpredictable." (Lister 2016)

Two newly emerging ideas of urbanism and ecology that thrust the concept of *large parks* are associated with the *landscape urbanism* framework. As regards the two emerging ideas, the renewed ecological consideration of *non-equilibrium* paradigm certainly offers essential clues, which caused the remarkable development of both *landscape urbanism* and *large parks* toward an organic approach. However, as systems theorist Fritjof Capra asserted, these prominent changes in urbanism and ecology are also intertwined with systems theory, which created a paradigm shift in our understanding of the complexity and dynamism of the urban fabric (vgl. Capra 1996). In conclusion, by incorporating urbanism and ecology with contemporary urban landscape, the understanding of *large parks* is largely expanded.

Aside from these emerging ideas, new perspectives on *large parks* are also analyzed by comparing them with stereotypical perspectives of conventional parks in North America. The contrast between these two perspectives elicits the following contents.

Stereotypical Perspectives of Conventional Parks

According to the historical understanding of parks in North American cities, conventional park refers to public park model that has been employed since the 19th century, inspired by the 18th to the 19th century English landscape garden (vgl. Jackson 1984, p. 127). The concept of conventional parks is influenced by J. B. Jackson's "Landscape Two" and understood as a "static" (Jackson 1984, p. 155) and "scenic object" for a subject (Corner 1999, p. 7). It is positioned as "end-product" (Marton 2010, p. 7) of an organized ideal in the industrial society, where cultivated order made the city beautiful, as shown in Table. 3 (vgl. De Jong, 2000, p. 10).

The conventional park is acknowledged universally as classical pastoral landscape, but it is inhabited by city dwellers of various social backgrounds within the liberal democratic and urban society (vgl. Hauck et al., 2015, p. 8). Herein, parks realize a combination of beautiful, harmonious scenery, urban, and social functions during the industrial stage. They provided healthy green spaces for people's recreation and activities, and thus American sociologist Galen Cranz defined them as "Recreational Facility" after the 1930s. These parks also stopped the spread of disease, reduced class conflict for social equity, socialized immigrants, and even educated people (vgl. Cranz 1982). Parks represented a healthy environment, a recreational facility, an experience of urban nature, and a maintenance of democracy and

civilization. In short, the conventional park is the pastoral landscape integrating scenery with functionality (Table. 3).

As urban green space, the conventional park played a role in offering "relief" from industrial cities (Cranz 1982 p. 3), as a result of the binary opposition or separation between nature and built-up urban areas. In the understanding of static image of green space, the conventional park without doubt presented an ideal and a visual harmony, and emphasized its pastoral pictorial sense (Table 3). From the aesthetic perspective, conventional parks are formed in a way of pictorializing nature, an entrenched mechanism of two-dimensional landscape representation that facilitates the conventional park design to be a representative design.

However, the representative design is increasingly expected to be adjusted, owing to its two possible disadvantages. First, it gives the impression that the park design only reproduces outdated scenic images that have no reference to the changing urban and social contexts (vgl. Höfer et al., 2010, p. 44). It forces the conventional parks constantly in an ideal state. Second, designing the classical harmonious landscape seems to present parks within a stable context. Once the parks are formed, transforming them to adapt to any other unaccounted factors in design processes is slightly difficult. This situation is also explained as lacking natural *disturbance* (vgl. Pollak 2007, p. 98) in terms of recent ecological findings and analyses. The sudden *disturbance* is a distinguishing feature of living ecosystems because they are "evolving discontinuously and intermittently" (Lister 2007, p. 44) and regenerating the ability of self-organization to adapt to the sudden situation. This natural characteristic is introduced into the concept of *large parks*. This characteristic is distinguished as among the qualities of *large parks* and referred to as *resilience*. In this sense, the *large park* design is an "adaptive ecological design" (Lister 2007, p. 36).

New Perspectives of Large Parks

German landscape architect Martin Prominski stated that conventional parks and *large parks* are essentially two contrasting and distinct ideas:

> "On one side we find the conventional ideas of a harmonious, green landscape opposing built-up areas, and on the other side there are new ideas that avoid any oppositions and try to integrate the strange mixtures of our peripheries or the web of infrastructure lines which are the landscape of our contemporary culture." (Prominski 2010, p. 57)

Despite their co-existence, an integrative idea is substituting for an opposite one in park conceptions. As a result, *large parks* are conceived as "complex systems" in space and time

(Lister 2007, p. 35), as shown in Table 3; this is a concept that is learned from ecologists based on their explanations as regards complex living ecosystems in nature. The systems are an open-ended network of structure (elements), dynamic processes, and their relations (Ibid.). They integrate at once infrastructure, "new" ecology, and life. They could "organize objects, spaces, and the dynamic processes and events which act upon" (Corner 1999, p. 154) connected and open-ended urban surfaces. In this regard, the concept of *large parks* assumes a role of "complex medium," which is a concept referred by Charles Waldheim in 2006. He pointed out that the complex medium is "capable of articulating relations between urban infrastructure, public events, and indeterminate urban future for large post-industrial sites" (Waldheim 2006, p. 40). *Large parks* generally bear these interlacing relations to implement the ongoing transformation of sites, rather than playing a part of the opposite of built-up areas.

Moreover, the positioning of parks shifts from "end-product" in the industrial society to "work-in-progress" in the post-industrial society (Table. 3). The comprehension of *large parks* in a dynamic fashion is influenced radically by J. B. Jackson's "Landscape Three" (see p. 33) that "developed a process-orientated definition" (Prominski, 2005, p. 27). In particular, he criticized the ideal scenic landscape definition explicitly. His renewed concept of North American contemporary urban landscape triggered an indispensable process-based viewpoint for *large parks*, to a certain extent. In addition, the construction of *large parks* increasingly requires a consideration of its sustainable ecological function in the long term. In this regard, North American professionals believe that parks in processes are more capable of improving city's environment in a continuous way (vgl. Marton 2010, p. 7). Hence, the concept of parks changes from static scenic to dynamic process.

Specifically, in the conceptual spatio-temporal systems, urban nature and life embody not only essential elements but also processes. Urban nature means to accept natural processes and natural *disturbance*, whereas urban life in everyday world reveals features of freedom, diversity, and unpredictability in programmatic processes. Natural and social processes constitute the process-orientated landscape automatically (Table. 3).

In contrast to conventional parks' representative design, *large parks* are performative design, that is, a design that emphasizes the "performance" of *large parks* (Czerniak 2001) (Table. 3). In fact, the term *performance* is derived from linguistics its meaning is always connected to a certain behaviour and action. The *performance* of physical material means to shift the focus of interests from essence to effect. Thus, the key issue is not "what things look like", but "what they do" (Stan Allen 1999, pp. 52–53). Transferring it into *large parks*, Julia Czerniak in 2001 began to direct designers to further consider how parks work. The idea uncovers profoundly the concern of ecological effectiveness or functionality.

North American professionals supported *large parks'* performative design when they managed messy, derelict, and contaminated post-industrial lands. These lands hold certain complexities in the actual urban environment; hence, implementing, cultivating, and transforming them overnight is unfeasible. In this situation, the "pragmatic and processual view" (Prominski 2010, p. 59) is essential to *large park* planning and design. This view means that the ecological effectiveness will show and grow over time, representing the site transformation from the pragmatic point of view.

From the new perspective, *large parks* on urban surface essentially attempt to "create an environment that is not so much an object that has been 'designed' as it is an ecology of various systems and elements that set in motion a diverse network of interaction" (Corner 2006, p. 31).

Table 3: North American large parks' new perspectives compare with conventional parks' stereotypical perspectives, in terms of concept, positioning, role, and focus (made by the author)

Perspectives	Conventional Parks' Stereotypical Perspectives	Large Parks' New Perspectives
Concept	—A "static" and "scenic object" (James Corner 1999, p. 7) —The pastoral landscape integrating scenery with functionality	—"Complex systems" in space and time: an open-ended network of structures (elements), dynamic processes, and their relations (Lister 2007, p. 35) —The process-orientated landscape containing natural and social processes
Positioning	—Park as "end-product" in the industrial society (Marton 2010)	—Park as "work-in-progress" in the post-industrial society (Marton 2010)
Role	—Green space for offering "relief" (Cranz 1982, p. 3) from industrial cities or built-up urban areas	—A "complex medium" (Waldheim 2006, p. 40) to transform post-industrial sites
Focus	—Representative design: a static and ideal image or visual harmony in a pastoral pictorial sense	—Performative design: emphasizing on large-park "performance" (Czerniak 2001) in the "pragmatic and processual view" (Prominski 2010, p. 59)

3.1.2 North American Landscape Architecture in Critical Thinking

In the second chapter, the comprehension of *critical rationalism* approaches employed in the research has been construed. As revealed, the approaches in the field of landscape

architecture concerns a reflection, entailing a thoughtful analysis of the issues and values involved (vgl. Corner 1991; 2014, p. 43). In addition, the North American academe has its own interpretations of the critical approach.

Since the 1980s, as J. B. Jackson analyzed the term 'landscape' critically, a reconsideration of making connections between established theory of landscape architecture and critical approach has emerged. In the early 1990s, there has been a "continuing debate upon the nature of theory in landscape architecture" (Swaffield 2006, p. 22). An organized discussion on North American landscape architecture and critical reasoning was founded at the conference of Council of Educators in Landscape Architecture (CELA) in 1990 (vgl. Hirsch 2014, p. 13). In the discussion, influential arguments for critical thinking originated from James Corner's *critical thinking* of *creative processes* (Corner 1991) and Elizabeth K. Meyer's criticism of *either-or* in 1997.

As regards necessity for critical thinking in the theoretical analysis of landscape, North American scholars realized that this standpoint assumes an essential "point of view within a theoretical infrastructure" (McAvin 1991, p. 154) for landscape rethinking and readjustment. In particular, the perspective of critique plays an essential role in resisting the taken-for-granted ways of thinking and thrusting alternatives (vgl. Swaffield 2002, p. 1). For James Corner, the alternatives articulated here are triggering creativity, whereas for Elizabeth K. Meyer, they are a collapsing established duality. Consequently, both of these scholars impel the advancement to a more appropriate landscape understanding that lay a theoretical foundation for *large park* concept.

James Corner's Critical Thinking: Creative Processes

At the 1990 conference, James Corner proposed: "What is critical inquiry? What does it mean in the context of landscape architecture?" Then, in his essay "Critical Thinking and Landscape Architecture" (1991), he indicated that *critical thinking* should incline to creativity that is shown through implementing a new working pattern of *plotting* in landscape design. The procedure of "plotting" a land includes building "a piece of ground" (as "physical sites"); "graphic representation" (as "eidetic sites" in a map or plan); constructing "a narrative or time series" (as "future sites" in an unfolding, sequential plot); and strategic devising of a plot (as "inherited sites") (Corner 1991) (Fig. 8). Through this pattern, landscape in a specific time and space is created critically.

For James Corner, the *critical thinking* of landscape is combined with conceiving of sites as creative processes. As he stated, "we map and 'lay out' our agendas and strategies, connecting and revealing previously unforeseen relationships. To plot is to critically

cultivate our relationship to landscape" (Ibid.). In the creative process, the key is to construct relationships between possibilities, unpredictability in sites (urban life), and form, and structure by means of strategies. The built relationships developing over time are considered as fluid, unconstrained, and self-organized to a certain extent. The fluidity and self-organization are emphasized because social and ecological qualities in urban landscape are manifested in self-organization in uncertain urban life and complexity in landscape-ecological sense. Such pattern affects James Corner's concept of *large parks* in planning and design.
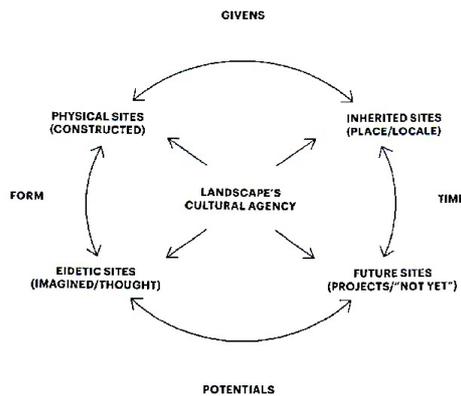
Fig. 8: James Corner's "plotting" as a working pattern reflects creative processes of critical thinking in North American landscape architecture (Corner et al., 2014, p. 43)

Elizabeth K. Meyer's Critical Thinking: Criticizing Either-Or

Elizabeth K. Meyer criticized *either-or* for representing a rigid and outmoded binary thinking pattern in her 1997 essay "The Expanded Field of Landscape Architecture." She questioned: "Why do landscape architects so frequently describe the world and their work in pairs of terms? Either-or. This or that. One or the other" (Meyer 1997, p. 45). Essentially, the production of binary thinking pattern has been identified by certain Western philosophers and cultural critics as "a tool for controlling power and making natural hierarchical relationships" since classical times (Ibid.). However, the thinking pattern is not any more suitable for the comprehension of contemporary landscape architecture. Through analyzing Elizabeth Meyer's critical thinking, the way of thinking will be adjusted and improved in an attempt to contribute to the advancement of landscape understanding. As she stated, such advancement will be the arrival of *expanded field of landscape architecture*.

From Elizabeth Meyer's viewpoint, the significance of rejecting *either-or* lies in "avoiding destructive polarization" (Meyer 1997, p. 50). The *either-or* division largely destroys the interconnections and interactions of binary landscape elements, such as city and landscape; urban and rural areas; culture and nature; art and science. Therefore, it makes the understanding of landscape fall into a simplistic and fixed view. Hence, the

interrelationships of binary landscape elements should be reconsidered and reconstructed in a new form. Elizabeth Meyer supported a strategy of "in between" (Ibid.) that may guide their interrelationships to be complex and diverse. This means that "the space between the binaries" (Ibid.) should be discovered. As a result, the strategy leads to a landscape concept expanded as "hybrid, continuum or cyborg" (Meyer 1997, p. 75).

The above opposite elements represent an "exclusive differentiation" (Beck et al., 2005, p. 122), presenting an absolute difference and cutting off possibilities of ties and reciprocities simultaneously. However, a shift from an "exclusive differentiation" to an "inclusive differentiation," in which categorizing is plural and ambivalent (Ibid.), exists in the *hybrid* understanding. By means of critical thinking, the *hybrid* becomes an alternative way of seeing and describing North American landscape.

The *hybrid*, *continuum* or *cyborg* is probably linked to spatial ideas of postmodern, as well as *machinic assemblage* within the theoretical framework of *landscape urbanism*. From a postmodern perspective, an image of intersections, *overlaps*, *hybrids*, and *cyborgs* is created only by acknowledging that binary terms can relate to one another without implied hierarchies or dominances (vgl. Huyssen 1986). In addition, the key term *machinic assemblage*, which is a concept similar to Meyer's *hybrid*, was proposed by Mohsen Mostafavi and Ciro Najle in their 2003 book "Landscape Urbanism: A Manual for the Machinic Landscape." In 2004, French philosophers Gilles Deleuze and Felix Guattari reinterpreted that *machinic assemblage* should be employed in a more free and an open-ended way in which various elements interconnect and assemble (vgl. Deleuze et al., 2004, p. 98).

According to the analysis of Elizabeth Meyer's criticism of *either-or*, the expanded concept of 'landscape' may produce an effect on the definition of North American *large parks*. As for *large parks*, "the lens of size" (Czerniak et al., 2007) is highlighted. The critical perspective is generated because North American professionals attempted to "cut across conventional binary categories of classification, historic or contemporary, built and unbuilt, competition-sponsored or commissioned" (Ibid.). Further, they set insights on "the impact and significance of size relative to the planning, design, and management of parks, past and future" (Czerniak et al., 2007 p. 7). Through size as a new definition, the analysis of *large parks* breaks down limitations of binary thinking.

3.1.3 North American Landscape Architecture in Cultural Imagination

James Corner argued that contemporary North American landscape is "first a cultural construct, a product of the imagination" in his book "The Landscape Imagination" (Corner

2014, p. 8). He believed that an emphasis is shifting from "landscape as a product of culture" to "landscape as innovative cultural agent" (Corner 1999, p. 4). In other words, through *cultural imagination* and materialization, the landscape itself is "not simply a reflection of culture but more an active instrument in shaping and enriching contemporary culture" (Corner 1999, p. 1).

Above all, the *cultural imagination* encourages contemporary landscape to be explained "in an eidetic and subjective way" (Corner 1999, p. 6). It reflects fully a significance of "a way of seeing," cited by cultural geographer Denis Cosgrove in the 1980s studies. According to him, "landscape is thus a way of seeing, a composition and structuring of the world […]" (Cosgrove 1985, p. 55). His understanding facilitated "the incorporation of individual, imaginative and creative human experience into studies of the geographical environment" (Ibid.).

Since the 1990s, James Corner discovered that there is always a simplistic landscape idea of picture-making disconnecting pluralistic representations in the field of North American landscape architecture. To reverse the stereotypical mechanism between the idea and representation in the form of picturesque and rural scenery, he supported imaginative practice extremely. Hence, he reiterated "how one 'images' the world literally conditions how reality is both conceptualized and shaped" (Corner 1999, p. 153), and believed that without *cultural imagination* landscape is simply "as a scenic object, a subjugated resource, or a scientistic ecosystem" (Corner 1999, p. 7). In conclusion, *a way of seeing* has inextricable relationship with ideas of landscape.

Following the idea of landscape as *a way of seeing*, individual creativity embedded in ideas has been affirmed greatly as a result of a shifting attitude toward *knowledge*. According to American architectural theorist Michael Speaks, *knowledge* is no longer concerned with absolute truth nor follows a fixed and changeless idea. Rather, it is concerned with "plausible truths;" meaning, it is "no longer dictated by ideas or ideologies nor dependent on whether something is really true, everything now depends on credible intelligence, on whether something might be true" (Speaks 2006, p. 104). *Knowledge* becomes "design intelligence" (Ibid.) in the North American academe; this transformation would stimulate the generation of more creative ideas.

With the above cultural background, contemporary North American landscape is capable of shaping and enriching contemporary culture when it is considered as "imaginative and material practice" (or expressed as "a way of seeing and acting") (Corner 1999). Through dynamic interactions between imagination and materialization, contemporary cultural ideas in landscape architecture are potentially driven. The processes are interpreted concretely by James Corner: "changing ideas of nature, wilderness and landscape continue to inform the

physical practices of designing and building in turn, further transform and enrich cultural ideas" (Speaks 2006, p. 7).

As regards *large parks*, the creativity comes from not only two newly emerging ideas but also many constructive *large park* projects, which materialized the ideas. The ongoing interactions between imagination and materialization have largely changed the North American understanding of large-scale parks. Meanwhile, more imaginative and creative ideas would be introduced and assimilated into *large park* concepts in the future. In this sense, *large parks* could be viewed similarly as an "innovative cultural agent," proposed by James Corner (Speaks 2006, p. 4).

3.2 Qualification of Large Parks

As revealed in the concept of *large parks*, size becomes an essential "premise" (Czerniak 2007, p. 30). Since 2003, the term "large" as "a singularly important criterion" for size (Lister 2007, p. 35) has begun to define parks explicitly for the purpose of opposing the traditional binary thinking. Thus, *large parks* are primarily analyzed from a quantitative perspective.

However, "large" means more than quantity. Beginning with the size, it also takes in another two connotations, implying the role of participating in shaping urban horizontal surfaces (vgl. Wall 1999) and "a multiplicity of social and natural concerns" (Pollak 2007, p. 87). The former reflected in *large parks* as "extensive landscapes that are integral to the fabric of cities and metropolitan areas" (Corner 2007, p. 11), with a North American landscape "ambition" (Czerniak 2007, p. 26). The latter suggests the multiplicity of natural and social concerns in the urban landscape as reflected in *large park heterogeneity*.

The size and the two meanings stated above are bound to bring about *large park* qualitative changes in terms of social and ecological considerations. This suggests that only the quantitative perspective is not sufficient for the qualification of *large parks*. Thus, a qualitative perspective is also required in the following analysis. The qualitative research is an empirical approach that is traditionally in the field of social sciences. Here, it helps to understand that of concept of *large parks* is limited not only to an absolute quantitative criterion but also orientated toward relative qualities and values for contemporary cities, ecology, and an individuals' everyday urban life.

3.2.1 From the Quantitative Perspective: Size

Quantitative Criterion

Owing to the term "large," size matters (vgl. Hargreaves 2007, p. 121). In terms of the GSD studies on *large parks*, their acknowledged quantitative criterion is "at least 500 acres" in area within contemporary metropolitan regions (Hargreaves 2007, p. 121; Berrizbeitia 2007, p. 175; Lister 2007, p. 35). According to this measurement, the analyzed *large park* practical projects, namely, 640-acre Downsview Park in Toronto and 2,200-acre Fresh Kills Park in Staten Island, New York in later sections meet the criterion completely.

The size criterion could be traced back to American landscape designer Andrew Jackson Downing's proposal when he lobbied for a larger tract of land for Central Park in the mid to the late 1800s (vgl. Czerniak 2007, p. 23). Owing to fear of health problems associated with unrelieved density in the early stages of America's urbanization (vgl. Cohen 1997; Czerniak 2007, p. 218), he proposed that: "five hundred acres is the smallest area that should be reserved for the future wants of such a city […] In that area there would be space enough to have broad reaches of park and pleasure-grounds, with a real feeling of the breadth and beauty of green fields, the perfume and freshness of nature" (Olmsted et al., 1928, p. 27). Large-scale parks as an essential type of urban green open space called for sufficient land to satisfy recreational function for a collective and perfect urban hygienic environment; offer aesthetic perception; and improve one's mental and psychological state. Moreover, the large tracts at that time could be arranged for "the pleasure ground," which is the first type of North American urban park by Galen Cranz in 1982, because in reality generous space could be acquired easily and cheaply (vgl. Rybczynski 1995).

Hence, the nature of parks in large sizes during the early period of urbanization was conceived as "an anti-urban ideal" (Cranz 1982, p. 3), and served as "counterparts to cold, technical modernity" (Prominski 2010, p. 58). Parks represent subjectivity of object (nature), and require large areas of land to organize the picturesque landscape with an image of green for expressing a harmonious relationship between nature and human. The ideal relationship, to a certain extent, alleviated the problems of urban life in the industrial society.

However, the quantitative criterion of parks is not static. Urban writer and activist Jane Jacobs had criticized this criterion since the early 1960s. Influenced by urban crisis, parks' largeness was considered as a "liability" (Czerniak 2007, p. 23). The urban crisis in North American cities manifested the problems of metropolitan growth. It triggered the flight of the middle class from failing cities to the suburbs; as a result, people no longer sought park services and even avoided parks conspicuously (vgl. Cranz 1982, p. 137). Such event prompted the realization that urban parks with a single massive use does not bring about attention and attraction of cities in spite of their largeness. In this situation, "dispirited border vacuums" emerged in urban parks (Jacobs 1961, p. 257). In "The Death and Life of

Great American Cities" (1961), Jane Jacobs required those parks to "make greater use of its perimeter" for stimulating residents' uses. To be specific, bringing various uses from deep within the park to its edge may produce "spots of intense and magnetic border activity," thereby creating a lively connection between the park and city (Jacobs 1961, pp. 265–266).

Jane Jacobs's arguments demonstrate that largeness alone may be insufficient to justify the existence of parks. This criterion does not guarantee parks to have a sustainable development in the city. In Jane Jacobs's opinion, a park's perimeter is as important as its interiority. She treated park as a social space in which rich urban activities and programs for a wide range of uses could be introduced into both perimeter and interiority. In conclusion, the understanding of size as large is placed on not only reviewing historical factors but also currently new interpretations, namely, the two connotations of size.

Two Dimensions of Size

Two potential connotations of size embrace the role of participating in shaping urban horizontal surfaces and a multiplicity of social and natural concerns. In general, they constitute two kinds of analytical dimensions of *large parks*: extensive and inclusive.

The extensive means that the concept and organization of *large parks* unfold at a horizontal level of urban surfaces as park's size increase. In this sense, *large parks* are even called "extensive landscapes" by James Corner (Corner 2007, p. 11). The inclusive indicates that the park area should be big enough, in excess of 500 acres, to contain richer resources and landscape elements at multiple scales for the park's own making (vgl. Czerniak 2007, p. 23). Thus, *large parks* could establish more interconnections with urban nature and urban life.

① **Extensive Dimension**

First, as for extensive dimension, two questions should be raised. Why are *large parks* discussed in the extensive dimension? Why are they capable of involving in shaping urban horizontal surfaces?

The answers have been primarily related to an emerging feature of contemporary North American cities since the late 20th century. It is identified as "a radically horizontal urbanism" (Allen 2001, p. 124), and further as "predominantly a horizontal landscape phenomenon" (Berger 2006, p. 21). According to Alan Berger, "the type of development found in 'sprawling areas' mainly consist of horizontally oriented landscape planes and surfaces, not buildings (notably vertical density)" (Berger 2006, p. 23). It could be summarized as a thinking of landscape-based urban development happened in contemporary cities.

Essentially, the above North American urban phenomenon during the 1980s and the 1990s is ascribed to the extension of urbanism to the whole urban areas, particularly the influence of *Post-Fordism* on spatial organizational structure and features in North American cities. According to Patrik Schumacher et al., with the failure of stable cycles of reproduction and expansion, Post-Fordist production paradigms are organized around emerging principles of decentralization, horizontality, self-organization, rapid mutability, fluidity, and indeterminacy (vgl. Schumacher et al., 2001, p. 54).

Consequently, the dispersed production patterns at socioeconomic level lead contemporary North American cities, to a large extent, into an open, decentralized, and self-organizing spatial model. Therefore, the horizontally urban sprawl is explained rationally through Post-Fordist mechanism. This mechanism demonstrates that "the relation between modern urbanism and Fordist economic imperatives" (Schumacher et al., 2001, p. 57) in industrial cities has been replaced by the further relation between 'landscape-based urbanism' and Post-Fordist mechanism in post-industrial cities. For urban planners and landscape architects, horizontally urban sprawl causes "the disappearance of North American cities into landscapes" (Shane 2006, p. 60).

Hence, the landscape dominates the spatial organization of urban surfaces. At this, the real root of *landscape urbanism* development begins. In considering greatly the dominance of landscape, James Corner argued explicitly for the close relationship between urban surface and today's landscape. He stated that "perhaps the contribution of landscape for the twenty-first century is that of providing a more primary foundation for the city—the very bedrock, matrix, and framework upon which a city can thrive, sustainably with nature and equitably with diverse cultures and programs" (Corner 2014, p. 11).

James Corner's arguments indicate that *large parks* as a concept for urban landscape planning will undoubtedly play an essential role. As a response to the emerging urban features, *large parks* will "retain a large-scale sense of landscape, horizon and extension" (Corner 2009, p. 18). In the planning and design, *large parks* attempt to shape the urban surfaces and establish "a seamless network of inter-connectivity," within the strategy of "unification" for overcoming segmentation of a given site (Ibid.).

Second, the extensive dimension of *large parks* could be derived in part from the ambition of urban planning at the turn of the 20th century. This reasoning is manifested prominently in American architect Daniel H. Burnham and other architects' boldly attempt to reimagine American metropolis. Daniel H. Burnham called to "make big plans" in the 1909 visionary Plan of Chicago, and encouraged to "aim high in hope and work" (Hines 1988, p. 105). Further, the ambition in landscape architecture is shown through *landscape urbanism* theories, among which "inherent outward looking and seeking connections with a wider

context" were supported by landscape urbanists (Thompson 2012, p. 10). With the landscape ambition, *large parks* at the metropolitan scale intend to integrate their interior and exterior resources and spaces as much as possible, and build more connections and interactions with regional surroundings. In this sense, *large parks* are acknowledged as extensive landscapes, rather than close and isolated parks.
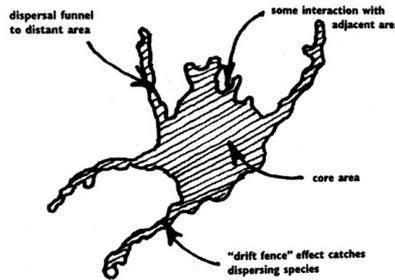

Fig. 9: Richard T. T. Forman's "ideal patch park shape" (Forman et al., 1996 p. 32)

Third, the extensive dimension of *large parks* is analyzed not only in view of North American cities in the landscape-based horizontal development but also of spatial morphology in a landscape-ecological sense. In 1996, Richard T. T. Forman proposed the "ideal patch park shape," combined with ecological function (Fig. 9). He considered the "optimum shape for a patch (park) is generally 'spaceship shaped' with a rounded core for protection of resources, plus some curvilinear boundaries and a few fingers for species dispersal" (Forman et al., 1996, p. 32). As the ideal model is transferred into *large parks*, the "core area" guarantees a large field against spatial segmentation and fragmentation; the core area is beneficial to the ecological reservation of natural resources and biodiversity; the "fingers" could be regarded as ecological corridors for regional linkages to other landscape systems and species movement. Essentially, the ecological model could help us better understand the *large park* spatial morphology at the extensive level, as well as ecological functions that *large parks* take on.

In addition, the above proposal of ideal morphology has embodied the research progress in the field of landscape ecology since the 1980s. Particularly in 1986, Richard T. T. Forman and Michel Godron offered a new cognition of terminologies for analyzing ecological system. In the book "Landscape Ecology" (1986), Forman and Gordon specifically studied several essential spatial patterns, such as *patches*, *edges*, *corridor*, *mosaics*, and these patterns' influence on the flows of organisms, materials, and energy that occur across landscapes (vgl. Hill 2001, p. 93). On the basis of these advanced knowledge, North American landscape architects tried to convert angle of view to search spatial relationships between parks and urban context, enlarge parks' contact interfaces, and even intentionally shape different spatial

structures to satisfy natural and human demands.

② **Inclusive Dimension**

According to James Corner, large size "affords distinct opportunities that are otherwise impossible in the compressed urban and public spaces of cities, allowing instead significant space for urban wilds and protected nature reserves alongside extensive leisure and recreational amenities" (Corner 2009, p. 18). The inclusive dimension represents the ability of housing elements and relations in both urban social and ecological systems. It shows the advantage of *large parks* mostly placed in suburban areas. The inclusive elements may refer to the great variety of lifestyles, cultures, activities, programs, and events, among others, within urban social system. They may also refer to multiple habitats of woods, meadows, marshes, and water bodies, among others, within urban ecological system. Between these two distinct systems, the inclusive relations in pairs could generally include "nature and culture," "art and science," "the natural and the artificial," and "the static and the dynamic" (Berrizbeitia 2007, p. 176).

As aforementioned, these social and ecological elements, together with their relations, represent the multiplicity of social and natural concerns. They are also integrated into a large, contiguous, non-fragmented, yet heterogeneous park area. In the landscape-ecological viewpoint, the largeness, containing more *heterogeneity* and interconnectivity, is always associated with ecological structures and functions that are difficult to be altered "through habitat fragmentation, reduction and simplification, partial restoration, or even complete re-creation" (Lister 2007, p. 35). Particularly compared with relatively smaller size, large size is considered as having an ecological advantage.

3.2.2 From the Qualitative Perspective: Ecological and Social Qualities

Compared with conventional parks, certain changes in the concept of *large parks* have been revealed. From the qualitative perspective, more detailed contents on ecological and social qualities of *large parks* will be formulated. With an increase in the concern over ecological and social qualities, the two elements are incorporated as much as possible into *large parks* to improve corresponding effectiveness. The most distinction for *large parks* is to establish interactive social and natural relations in a dynamic fashion. Exactly through the interactions, *large park* qualities are reflected greatly and explained as five distinguishing features:

- Complexity: The built complex systems in the adaptive processes of site transformation, open to the unpredictable future.

- Diversity: It refers exactly to *heterogeneity* in a landscape-ecological sense.

- Sustainability: It refers exactly to *resilience* also in a landscape-ecological sense.

- Appropriation: It refers to social self-organization of spaces along the thread of programmatic indeterminacy for flexibility and multiple demands of users.

- Identity: It refers to ecological identity, emphasizing the unfolding of ecological functionality or performance through space occurring over time.

These features show the theoretical interplay of varying landscape-related disciplines. In particular, the most prominent cooperation comes from landscape and ecology because of the emergence of ecological principles since the 1980s. In the North American academe, the influence of ecology is so profound that *large parks* are inclined to serve as an ecological-orientated paradigm.

Complexity

As regards complexity, the primary issue does not concern complexity theories, but its significance for urban landscapes. "Complexity theories, which today are considered the solution for the problem of creativity, offer a new creative view of the intellectual as well as the material world, linked to the evidence that completely new structures of order can arise, but are not predictable" (Poser 2008, p. 109).

According to this Hans Poser's explanation, complexity is introduced into North American landscape architecture because of the creativity as the core of North American urban landscapes that has been articulated as the cultural context of large park emergence (see p. 45). The pursuit of creativity becomes the original cause to combine complexity with urban landscapes and *large parks*. Thus, it forms a new cognition of "complexity inherent in landscapes" (Berrizbeitia 2001, p. 117). Further, the complexity of ecology and program is also inherent in *large parks* (vgl. Lister 2007, p. 36), which means *large parks* possessing "ecological and programmatic complexity" (Lister 2007, p. 36; Pollak 2007, p. 91). The ecological complexity would show non-linear understanding of nature in the new perspective of *non-equilibrium* ecology based on the dynamism. The programmatic complexity indicates a series of self-organized programs that are adaptive to the needs and desires of people in an unpredictable urban life.

To be specific, complexity refers to "organized complexity" in space and time containing a large number of variables whose behavior cannot be considered random, as explained by

American biologist Warren Weaver (vgl. Weaver 1948). Organized complexity reveals "the evolutionary development of nature in its nonlinear structural dynamics" (Poser 2008, p. 99), when the linear, deterministic, closed, and stable view is not enough to describe the understanding of contemporary nature. Its definition tells two aspects of complexity. First, organized complexity is composed of more than two closely connected parts that are dynamic and interacting, such as, variables. The variables in *large parks* are time, urban nature, and urban life. These three produce an interplay, which are defined as natural and social processes. Second, these variables may perform certain distinct behaviors that have been pointed out in Nina-Marie Lister's construing of *large parks* as "complex systems":

> "Complex systems are interconnected network of processes (or functions) and structures (or elements) whose behavior is generally described as nonlinear, unpredictable, dynamic, and adaptive, and is characterized by the regular emergence of new phenomena and the ability to self-organize." (Lister 2007, p. 55)

In large-park planning, the complex systems are often understood to be a dynamic framework constructed by planners and designers. The framework in space and time appears as "strategic organizations" and "dynamic infrastructures" (Czerniak 2001, p. 14). It aims to establish dynamic interrelationships between processes and material structures.

To analyze the complexity of *large parks* fully, the following two characteristics: process and unpredictability are interpreted separately.

① **Process**

The term "process" is first grasped as space occurring over time (vgl. Hansen et al., 2011). It underscores the "formation of space through process" or processes as the "principal generators" of space-making (Wall et al., 2015, p. 195). The concept may depend greatly on the new cognition of "the dynamic nature of the material itself" (Berrizbeitia 2007, p. 178) which demands for design processes rather than a landscape's final form.

In retrospect, the understanding of process is produced primarily in the comprehension of contemporary cities. Early in the 1960s, under the influence of the field of biology, Jane Jacobs contended that "like the life sciences" (Jacobs 1961, p. 433), processes and the catalysts of processes are the essence of cities (vgl. Jacobs 1961, pp. 440–441). At the end of the 20th century, the contemporary city is further explained as "a constant process of unfolding rather than a rigid reality" (vgl. Corner 1997, p. 81). In American architect and theorist Stan Allen's viewpoint in 2001, the spatial process occurs in the living urban surface where the ongoing urbanization is further construed conceptually as "living societal and

ecological processes" (Berger 2009, p. 93). Consequently, the two processes of urbanization in terms of urban society and nature also become the leading directions of *large park* processes.

However, the complexity largely leads to a process-based design approach applied in the planning and design of *large parks*, owing to the following three obvious advantages.

• First, the process-based approach allows the (re)construction and (re)development of urban green open space to slow down. The primary cause for that is the transformation of most urban post-industrial sites that reject the eagerness of a speedy success and the pursuit of instant benefit through accomplishing in an action. It takes time for the large park growth, self-organization, and transformation; for the equipment of infrastructure, and the development and maturity of natural system; and for dwellers to perceive, find, and experience the changing process. People will be involved and extend more patience, concern, understanding, and support during the process. It is indeed "an interactive responsive network" (Czerniak 2001, p. 16) that makes the growth of parks closely related to residents, groups, and communities, as well as forms their open interactions.

• Second, it encourages professionals to re-consider the dominating role of planners and designers. According to Alissa North, "with the process design, the designer's role does not end with a traditional final master plan where landscape elements are fixed in space and time, but rather with a framework capable of guiding the evolution of the site toward a desired and continually relevant trajectory" (North 2012, p. 11). In the concept of *large parks*, North American professionals intentionally choose another way-out. They began to "guide or steer flows of matter and information" (Corner et al., 2001, p. 58) through the established framework per se, containing landscape elements, dynamic variables, and interactions in a complex field. As a result, design initiatives are not simply "willful, subjective or formal approaches" (Corner 2009, p. 18), and professionals are also not easy to determine or predict outcomes.

• Third, it suggests "an adaptive management approach in which the effects of interventions are monitored, adjustments are made, and new directions and configurations emerge" (Mertins 2001, p. 30). It means *large parks* are handed to the gradual development process, during which an adaptation would work. The adaptation or adaptive management often operates after obtaining a certain development and accumulation of *large parks* over time. There is a needed selective modification in terms of open areas, infrastructure (e.g., transportation system), various ecosystems, and programs. For various ecosystems, there are also continuous monitoring and maintenance, together with the modification. In conclusion, a flexible arrangement that

adopts to changes is highlighted.

② **Unpredictability**

According to James Corner, the idea of unpredictability may be influenced by French philosopher Henri Bergson's understanding of life in "Creative Evolution" (1944) (vgl. Corner 1997, p. 100). He believed that Henri Bergson's remark, stating that "the role of life is to inject some indetermination into matter" (Bergson 1944, p. 139), may offer infinite creativity of both biological and imaginative life. Within the scope of life, James Corner may intend to remind North American planners and designers that there is "a need to liberate life so that its fullest potentials may come into appearance" (Corner 1997, p. 101). The potentials in life may more or less show when leaving some room for a flexible arrangement and adjustment during processes. The path of an emerging exploration may guide more North American professionals to pay attention to the unpredictability possibly employed in the planning and design of *large parks*.

In the field of ecology, unpredictability is construed through *emergence*. The ecological understanding of "emergence" is articulated by American naturalist George Salt. He said: "it refers to a property of an ecological unit that is unpredictable" (Salt 1979, p. 113). Its generation will be explained in following part of *resilience* in the dynamic ecosystem model. Apparently, the term has been adopted in practical large-park projects when designers described their concepts. For example, the *emergent* appeared as subject headings in the finalists' design schemes of Downsview Park competition: "Emergent Landscapes" by the Brown and Storey team and "Emergent Ecologies" by the Corner and Allen team. Nevertheless, the ecological mechanism of *emergence* was not their focal point for envisaging contemporary urban landscapes. The *emergence* means that with the open-ended and complex ecosystems evolving toward an uncertain future, both the maturity of ecological systems and "new forms and combinations of life" (Corner et al., 2001, p. 58) will emerge.

At the same time, unpredictability also symbolizes the aspect of social life. It "accounts for unpredictable urban life that might arise from the confluence of program with circulation, as well as for the outcome of participatory processes" (Czerniak 2001, p. 17). In short, unpredictability refers to programmatic indeterminacy in *large parks* that will be illustrated in social appropriation and through the practical project of Parc de la Villette by Rem Koolhaas in the following sections.

In conclusion, what has been discussed herein is not the concrete mechanism of complexity alone, but rather its obvious features and significance for *large parks*. From the creative perspective, complexity brings about new possibilities. On the one hand, it helps set up an additional logic or choice for concepts of contemporary large-scale parks with sufficient

arguments. Its establishment is strictly opposed to the traditional concept of pastoral parks onto which landscape architects have placed too much energy, although such conceptualized understanding is concurrent virtually in planning and design. That is to say, the emerging understanding based on complexity is not substituted radically for the traditional one, yet its existence plays an evolutionary role. On the other, it offers new possibility for structures: self-organizing spatial processes with unpredictability.

Diversity (Heterogeneity)

The diversity of *large parks* is interpreted likewise in a landscape ecological sense. It refers precisely to the basic term *heterogeneity*, implying differences and diversity of a cluster of ecosystems, developed by Richard Forman. The *heterogeneity* traces back to Richard Forman's ecological understanding of landscape. He explained the concept of landscape within the realm of landscape ecology as follows:

> "… a heterogeneous land area composed of a cluster of interacting ecosystems that is repeated in similar form throughout. […] The definition also indicates that ecosystems in the cluster are interacting. Thus, animals, plants, water, mineral nutrients and energy are flowing from one ecosystem to another in the cluster. Each cluster is both a source and a sink for different moving objects." (Forman 1987)

This understanding illustrates fully that the *heterogeneity* of land contributes to an essential shift from a model of a single ecosystem to multiple interconnected ecosystems in a dynamic fashion to respond to "an unceasing barrage of perturbations" (Worster 1993, p. 164). As articulated in the inclusive dimension of *large parks*, *heterogeneity* means multiple and interconnected ecological systems or habitats at various scales.

Sustainability (Resilience)

The renewed understanding of large-park sustainability is grasped plainly through the concept of *resilience* in the landscape-ecological context. It differs from the sustainability in a common sense that retains a pure state of balance and harmony at the sociocultural, ecological, and economic levels. The term *resilience* is developed by Canadian ecologist C. S. Holling in the mid-1980s (vgl. Lister 2007, p. 55). In landscape ecology, *resilience* displays the adaptive capacity and function of living ecosystem, "the ability to recover from disturbance, to accommodate change, and to function in a state of health" (Lister 2007, p. 36). The irresistible disturbance mostly comes from certain external agents, such as "wind,

fire, disease, insect outbreak, and drought" (Holling 2001, p. 394), or human activities. Precisely, the transformative capacity permits *large parks* to develop in a sustainable way, and is depicted by Nina-Marie Lister as "new sustainability" in 2015.

In fact, the *resilience* is uncovered through C. S. Holling's dynamic model of ecosystem development in 1992. This model involves an emerging paradigm of natural ecosystem in which "dynamic equilibrium has substituted for an older idea—the steady-state 'balance of nature'" (Hill 2001, p. 93). Its proposal argued that the field of landscape ecology "has moved away from a concern with stability, certainty, predictability and order in favor of more contemporary understanding of dynamic systemic change and the related phenomena of uncertainty, adaptability and resilience" (Lister 2015, p. 18).

As shown in Holling's dynamic model (Fig. 10), there are three properties, namely, "potential" (or "wealth") that "determines the number of alternative options for future"; "connectedness" (or controllability) that "determines the degree to which a system can control its destiny"; and "resilience" that "determines how vulnerable the system is to unexpected disturbances and surprises that can exceed or break that control" (Holling 2001, p. 394).
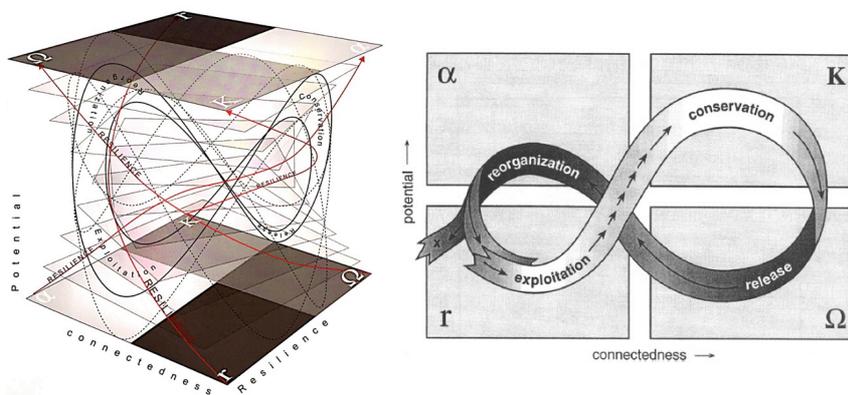
Fig. 10: C. S. Holling's 1992 dynamic model of ecosystem development (Lister 2015, p. 21) (Left)

Fig. 11: The projection of C. S. Holling's three-dimensional model onto two-dimensional plane (Holling 2001, p. 394) (Right)

In the transferred two-dimensional plane (Fig. 11), the cyclic model is decomposed into two loops implying clearly that there are four functions of living ecosystem: "exploration" (birth), "conservation" (growth), "release" (death, namely, "creative destruction" by J. A. Schumpeter in 1950), and "reorganization" (renewal) (Ibid.). The two opposite phases unfold in a sequence. The first phase is growth and stability, making the transition from "exploitation" to "conservation" (namely, from "r" to "k") in which a gradual accumulation

shapes, and the properties of potential and connectedness (y and x axes) increase. The second one is the "back loop" of adaptive circle, making the transition from "release" to "reorganization" (namely, from "Ω" to "α") (Ibid.), when ecosystems occurs discontinuously, and change periodically, such as the disturbance. *Resilience* is involved in the two dimensions. It shrinks from "r" to "k", whereas it expands from "Ω" to "α". The latter transformation of change and invention is unpredictable inherently, such as the *emergence*.

In the mechanism of ecosystem development, the states of growth, prosperity, and stability in the first stage used to be the concerns of most planners and designers, who take them for granted as optimum at the ecological level. In many cases, these states constitute their simplified comprehension of sustainability in a landscape-ecological context, when the second stage is not taken into account. This alternative frequently corresponds to a relatively elaborate maintenance and management of large-scale parks, followed by extra economic costs. Evidently, the situation is not only deprived of the wilderness of nature with the resilient quality but also difficult to apply to large-scale parks at the metropolitan level because of economic considerations.

Appropriation

According to James Corner and Stan Allen, "the park should develop over time as users inscribe their own traces into its various surfaces and pathways" (Corner et al., 2001). These scholars employ the word "inscribe" for the purpose of emphasizing the users' huge and transformative effect on the large site of a park. The users' individual traces, mostly triggered by spontaneous actions, activities, and public events, may exert a visible or intangible force for assisting the site transformation, to a great degree. This inscription may boil down to a kind of everyday, continuous, and individual appropriation in open, equal, multiple, and flexible ways. The appropriation is exposed to an individual's choice and freedom, involving a large extent of personal willingness and desires. It represents a self-organization of *large park* space at the social level.

For the development of *large parks*, what is mostly concerned in the understanding of social appropriation is unpredictability reflecting the complexity. Landscape architects Wolfram Höfer and Ludwig Trepl pointed out that the aim of landscape work is not simply to accomplish fixed demands for the public, instead specific situations and demands may naturally emerge in the diverse, creative, and uncertain urban daily life, because the meaning of life is not merely satisfied to be arranged:

"This is not a predetermined purpose that would have to be followed by a people on the

basis of its inherited character in order to fulfil requirements by nature and destiny at a specific location. Rather, the meaningful purpose emerges in the process of living in the landscape and is subject to change as part of that process." (Höfer et al., 2010, p. 50)

Identity

According to the profound influence of new ideas in landscape ecology, the cultural identity of *large parks* without a doubt tends to be organic. As articulated above, ecology in large park concepts surely provides a useful analogy for complexity, diversity, and sustainability. The ecological *metaphor* for contemporary urban landscapes plays a major role in specific North American cultural context. This point has been explained in the second chapter of the 1990s North American analysis of urban landscape (see pp. 33–36).

In fact, the ecological identity of *large parks* relies essentially on the unfolding of ecological functionality or *performance* through the space occurring over time. The *performance* is closely linked to living urban surface. In Stan Allen's perception, an urban surface is not a flat lifeless plane, but a thick section full of characteristics and behavior. "The surface in landscape is always distinguished by its material or performative characteristics. To be more precise, its performative effects are the direct result of its material characteristics" (Allen 2001, p. 124).

3.3 Large Park-Related Practical Projects: Parc de la Villette, Downsview Park, Fresh Kills Park

To analyze multiple conceptions relevant to North American *large parks* deeply and vividly, three projects are shown here in chronological order: 121-acre Parc de la Villette in Paris, France (1982); 640-acre Downsview Park in Toronto, Canada (1999); and 2,200-acre Fresh Kills Park on Staten Island in New York, the United States (2001). The prominent reasons for choosing them lie in their embedded advanced landscape or ecological ideas and approaches contributing to *large parks*. Simultaneously, the three case analyses also argue for the above key points of qualitative qualification of *large parks*.

Notably, these large-scale projects were initiated positively by means of international design competitions. Among the three projects, Downsview and Fresh Kills projects are remarkable for the presence of landscape architects on established interdisciplinary teams of consultants, such as urban planners, architects, and landscape ecologists. In contrast, the Parc de la Villette competition named a single lead architect to orchestrate the entire project (vgl. Waldheim 2006, p. 51). In this regard, "the overarching role of architects in previous regimes of urban design and planning" (Ibid.) being no longer apparent is illustrated in the

two former projects. Landscape architects and ecologists are increasingly engaged in *large park* projects and make contributions to update ideas based on intersecting disciplinary knowledge. In a landscape-ecological context, there is a difference between "the less ecological Parc de la Villette" and Downsview and Fresh Kills Parks, which both "strongly incorporate the ideas of ecology" (King 2011).

Meanwhile, North American landscape architects anticipate helping their discipline flourish through recent large-park projects (vgl. Diana Balmori 2010). They think there is an interdependence with architecture and urban organization, and construction could be formed from the perspective of landscape. This situation could be summarized by the renaissance of landscape in the second chapter, when North American professionals call for a critical readjustment to expand the scale and scope of contemporary landscape (see pp. 19–20).

3.3.1 Parc de la Villette

The 1982 competition for Parc de la Villette within the industrial periphery of Paris represents the beginning of conceiving of "the urban park for the 21st century" (Tschumi 1987, p. 1). According to the size criterion, this prime project (121 acres) actually does not pertain to *large parks*, yet its provoking concepts laid the foundation for the rise of both North American *landscape urbanism* and *large parks*. As Charles Waldheim stated, Bernard Tschumi's and Rem Koolhaas's proposals are the first examples and pioneers of *landscape urbanism* theories, and their submissions signaled a paradigm shift of contemporary parks (vgl. Waldheim 2006, p. 40). Their remarkable views laid the foundation for the further conceptions of *large parks*. Their views involve two levels. First, "programmatic indeterminacy" was introduced into contemporary landscape architecture (Koolhaas et al., 1995) and, second, disrupting polarization in North American critical perspective was pointed out emphatically by Elizabeth Meyer in 1997.

Programmatic Indeterminacy

The second-prize proposal by the Office for Metropolitan Architecture (OMA) presented a conceptual approach to landscape process during which "programmatic indeterminacy" (Ibid.) was emphasized. On the metropolitan field, "orchestrating urban program as a landscape process" (Waldheim 2006, p. 40) is regarded as an essential design strategy. Since the 1970s, Koolhaas and his colleagues have focused continuously and developed critically the role that "program" plays in the making of projects (vgl. Wall 1999, p. 236). Their proposal for Parc de la Villette becomes a strong confirmation for that. In their opinion, the idea of program is pushed toward more dynamic and productive ends, and the program is

considered as the engine of a project, driving the logic of form and organization while responding to the changing demands of society (vgl. Wall 1999, p. 237). In essence, their idea reflects the characteristics of openness and adaptability. Openness means that programs are no more strictly fixed or arranged in advance by designers. They may freely and flexibly take in potential possibilities from specific sites and users, and are even open to an uncertain future. The dynamic process is in fact adaptive to changing social demands. As Rem Koolhaas and Bruce Mau explained:

> "It is safe to predict that during the life of the park, the program will undergo constant change and adjustment. The more the park work, the more it will be in a perpetual state of revision. Its 'design' should therefore be the proposal of a method that combine architectural specificity with programmatic indeterminacy." (Koolhaas et al., 1995, p. 923)

The programmatic indeterminacy in OMA's scheme is embedded in their diagrammatic plan. As seen in Fig. 12, the plan is composed of multilayered diagrams, including "strips," "confetti" or point grids, "access and circulation," and "the final layer."
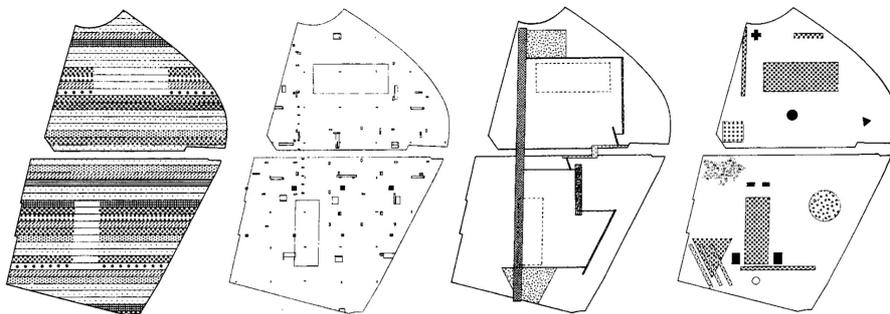
Fig. 12: OMA's Multilayered diagrams of "strips," "confetti," "access and circulation," and "the final layer" (Koolhaas et al., 1995, pp. 923–929)

- The parallel "strips" with a width of 60 meters could accommodate major programmatic categories across the site, such as theme gardens and playgrounds. According to Rem Koolhaas, they "create the maximum length of borders between the maximum number of programmatic components and will thereby guarantee the maximum permeability of each programmatic band and – through this interference- the maximum number of programmatic mutations" (Ibid.).

- "Confetti" is formed by small-scale elements on grid points, such as kiosks, playgrounds, and picnic areas. In terms of the desirable frequency, the distribution of these elements is

mathematically built up (vgl. Koolhaas et al., 1995, p. 925).

- "Access and circulation" are formed by boulevard and promenade. The boulevard as a major axis connects large-scale architectural elements, and the promenade reaches specific areas.

- "The final layer" is a composition of the major elements that are large-scale buildings, such as museums and halls.

Rem Koolhaas described the multilayered diagrams as "landscape of social instruments" where the quality of project would derive from uses, juxtapositions, and adjacency of alternating programs over time (Koolhaas et al., 1995, pp. 894–939). In fact, his description reveals the interrelationship between established diagrams, a framework, and indeterminate social programs. The conceived framework bears programmatic changes and corresponding social demands over time. Landscape is viewed as the "suitable medium" (Waldheim 2006, p. 40) for supporting all this to occur.
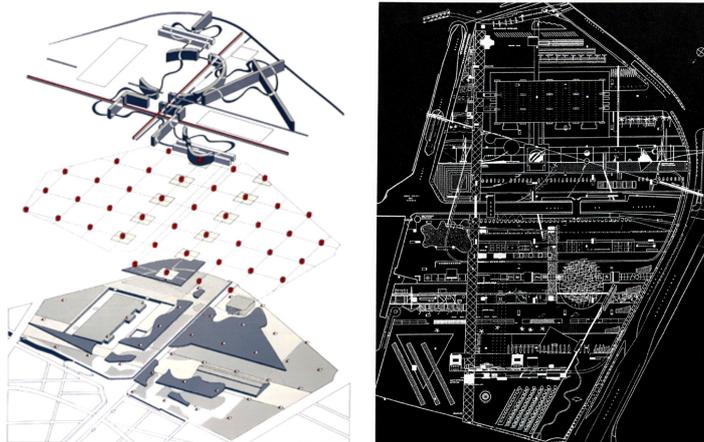
Fig. 13: Bernard Tschumi's plan for Parc de la Villette competition (Tschumi 1987) (Left)

Fig. 14: OMA's plan for Parc de la Villette competition (Koolhaas et al., 1995, p. 933) (Right)

For OMA's proposal, combined with highly changeable and unpredictable characteristics of urban society, a visionary perspective on contemporary parks changed the course of OMA's idea. In this plan, the visionary perspective is reflected in the focusing on a strategic organization or precisely a conceived framework instead of a specific form. Rem Koolhaas's Parc de la Villette concept assumes a significance for further North American *large parks*, exactly because he stirred an imagination coming from treating contemporary city in a dynamic way and urban life in an unpredictable way. This imagination is manifested as the idea of urban programmatic changes. The imagination of city and life is incorporated into

the understanding of contemporary parks. In conclusion, this scheme may become the beginning of introducing an indeterminate factor in a social meaning into the concept of the 21st century parks, especially the *large* ones.

Disrupting Polarization

In Bernard Tschumi's and Rem Koolhaas's proposals, disrupting polarization becomes the second level influencing the *large park* conceptions. This point shows the criticism toward binary thinking as regards *large parks*. It also suggests the close connection between the *large park* and the contemporary academe of North American landscape architecture in the critical thinking that has discussed previously.
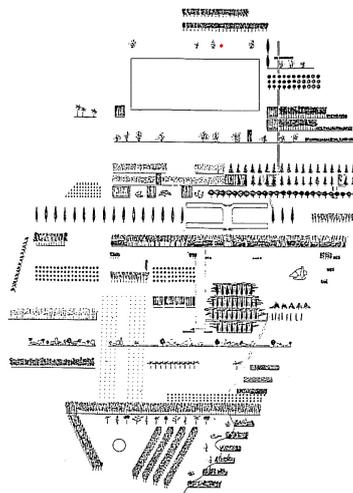
Fig. 15: OMA's overall vegetal plan is built to eliminate the destructive polarization (Koolhaas et al., 1995, p. 932)

In Bernard Tschumi's competition-winning scheme, he purposely set out to prove that it was possible to construct a complex architectural organization without resorting to traditional rules of composition, hierarchy, and order (vgl. Tschumi 1987, p. VII). He intended to "encourage conflict over synthesis, fragmentation over unity, madness and play over careful management" (Ibid.). His concept of spatial construction is usually considered to be influenced largely by *deconstruction*. Alternatively, he is regarded to use a deconstructive approach for disrupting the clear polarizations or oppositions between culture and nature, urban and rural, and form and function. French philosopher Jacques Derrida, the founder of of *deconstruction*, stated that the important aim of applying a deconstructive approach is "not to reverse or replace the binary, but to derail the whole system, creating a space for ambiguity, difference and playfulness" (Derrida 1967; 1997). In Fig. 13, the entire system established through overlapping *points* ("the red enameled steel follies that support different

cultural and leisure activities") (Bernard Tschumi Architects), *lines* (movements such as promenade, alleys, and linkages), and *surface* (large areas for mass entertainments and open spaces) by Tschumi demonstrates exactly the essence of *deconstruction*.

Concurrently, in Fig. 15, OMA's scheme also calls for eliminating the destructive polarization through the repetition of a similar horizontal structure, within which the built and vegetal material is arranged (vgl. Meyer 1997, p. 67). The structure is reflected in the diagram "strips" in Fig. 11. Through the structure, Rem Koolhaas attempted to blur traditional boundaries between nature and artificiality. In fact, the structure underscores "modes of distribution," "the ways in which materials and elements are arranged, rather than the things themselves" (Choay 1985, p. 213). Seen from his overall plan in black and white in Fig. 14, the built and vegetal as component elements are more or less difficult to be discerned. Such confusion exists because he employed a nonhierarchical planning strategy that does not rely on binary opposites. Elizabeth Meyer provided a concrete analysis of such confusion in 1997:

"Their form and structure is not one of contrast, built versus vegetal, but of similarity. This repetition of alternating built and vegetal strips calls into question the oppositional nature of naturalness and artificiality. […] This confusion of categories, wherein the vegetal can be artificial or human-made and the built can be scattered or natural, refers back to the traditions of nineteenth-century park and promenade design and addresses the 1982 competition brief's call for 'the contradictory requirement that the park be at once thoroughly natural and cultural' (Choay 1985, p. 213)." (Meyer 1997, p. 67)

3.3.2 Downsview Park

The second practical project is Downsview Park in Toronto. It is almost the first *large park* case acknowledged by North American professionals. The Downsview Park is a former decommissioned military base, and now regarded as Toronto's "first major new park of the twenty-first century and an integral part of the city's attempt to intensify itself" (Glover 2001, p. 38).

It is a crucial *large park* case, in which the definition of an urban park "in flux" is encouraged to understand, and the transformation of site is inaugurated, while "remaining open to change and growth over time." These descriptions can be found in the 1999 Downsview Park International Competition Brief, in which two of the five finalists' design schemes from the Tschumi and the OMA teams are mentioned. They demonstrate fully that the building of a large park to offer a complex urban landscape requires designers from

varying fields, including landscape architecture, graphic design, and ecology. Moreover, both of them are inclined to favor organizational "frameworks over form," because established frameworks in their proposals may "offer the possibility of both accommodating the three-stage, fifteen-year implementation process of the park, with its attendant public programming opportunities, and anticipating the transformativity, emergence, and complexity of natural and cultural processes" (Czerniak 2001, p. 14).

Tschumi Team's "The Digital and The Coyote" Scheme

The most noticeable feature of Tschumi Team's proposal is in the dynamic blending of the natural and the cultural through the construction of a framework. In particular, within interconnected landscape systems that flow spatially along the edges of the park display their apparent interplay.

① **Downsview Park as Part of Interconnected Landscape Systems**

According to Julia Czerniak's figure in 2001 and 2007, the original land of Downsview competition is augmented, from about 320 acres to 640 acres. The augmentation might had been influenced by landscape ambition of thinking beyond the given in large park conception. At the same time, its purpose lies in establishing more linkages between the Downsview Park system and other ecosystems in this wide region, specifically involving two major ecological corridors, namely, Don River System and Humber River System, as shown in Fig. 16. In this sense, the park is positioned at the center of interconnected landscape systems at a regional scale.
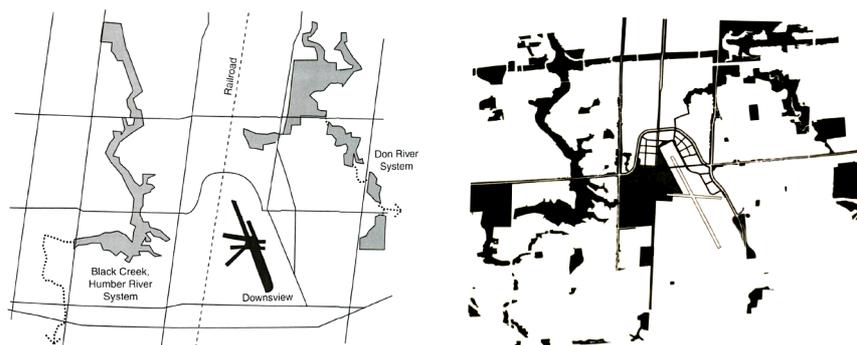
Fig. 16: Downsview Park in a regional landscape system is linked to two major ecological corridors, including Don River System and Humber River System (Hill 2001, p. 97) (Left)

Fig. 17: Extending linear connections to the two ecosystems (Czerniak 2007, p. 28) (Right)

On the basis of the existing layout, linear connections to the two ecosystems in the proposal are thus set up by appropriate extensions toward the surrounding landscape context (Fig. 17). They are considered as corridors shaped by regional woody vegetation. Undoubtedly, these wooded corridors will not only evoke an association of the Great Toronto area's remarkable landscape element and character, which is woodland, but also assume ecological function and role. They are built linkages for the movement of people, water, and wildlife species, explained in the part of "ideal patch park shape" (see p. 61). In a landscape-ecological context, the corridors as essential spatial pattern are channels for exchanges of material, energy, and information between the park and surroundings.

② **Framework Over Time: Dynamic Integration of Nature and Culture**

Calling the scheme metaphorically as "The Digital and The Coyote" suggests an understanding of a complex park site on which there are two juxtaposed urban realities, namely, digital culture and wild nature. For Tschumi, everything is "urban" in a 21st century, "even in the middle of the wilderness", quoted in Julia Czerniak's 2001 book "Downsview Park Toronto". This viewpoint primarily reflects a designer's attitude toward blending the cultural and the wild actively, instead of adopting a binary separation and opposition.
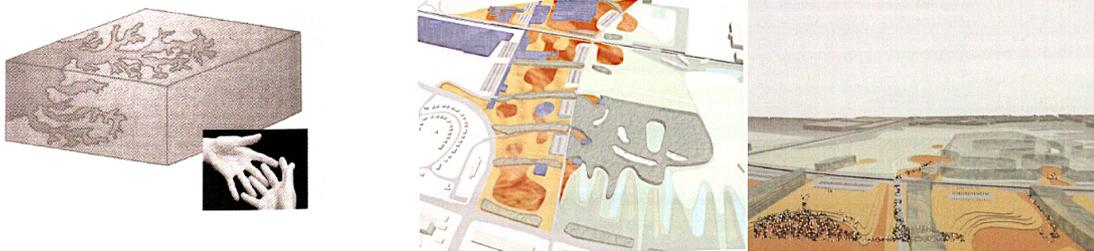
Fig. 18: The fractal phenomenon of "digits"as an approach to greatly increase the interface between the wild and the cultural (Czerniak 2001, p. 82) (Left)

Fig. 19: From the aerial view, interpenetration at edges between the digital mass culture and the wilderness is produced through the approach of flowing "digits" (Czerniak 2001, p. 87) (Right)

In dealing with the above two realities, the Tschumi team discovered the following design approach. They strived "to mix, to permeate one another in the most positive and fluid—liquid—manner" (Ibid.). For this purpose, the first thing is to increase their interface through maximizing the presence and length of the park perimeter. The team introduces the concept of "Digits" with the characteristic of fluidity derived from a "fractal phenomenon of viscous fingering," as shown in Fig. 18 (Ibid.). The "Digits" direct the park's edges porous to admit its surroundings (vgl. Pollak 2001, p. 43). The team makes the edges and interfaces

within a fractal, fluid scope, and a distinct *perimeter landscape* is thereby envisioned, such as from the aerial view in Figs. 19 and 20.

Fig. 20: The aerial view from the northwest shows the dynamic transition, which is organized from the cultural to the wilderness (Czerniak 2001, p. 86)

On the basis of the concept of spatial fluidity, the park's framework is organized. It is composed of three superimposed conceptual elements: "Digits," "Spools," and "Screens" (Fig. 21). They are primary "physical and spatial means for defining and activating the park", quoted in Julia Czerniak's 2001 book "Downsview Park Toronto". Each of them functions for not shaping differential, specific spaces, or fixed forms but for stimulating space for a continuous development over time. In essence, they are definitely *non-site* spatial elements. The designers resort to the organized framework to conceive the *large park* morphology, less referring to physical geographical morphology. The latter move is increasingly seen as a consideration of strategy. As Tschumi purported, "conceiving of any large spatial organization begins with a strategy, never with a form", that is, "frameworks over form", which is quoted by Julia Czerniak in 2001.
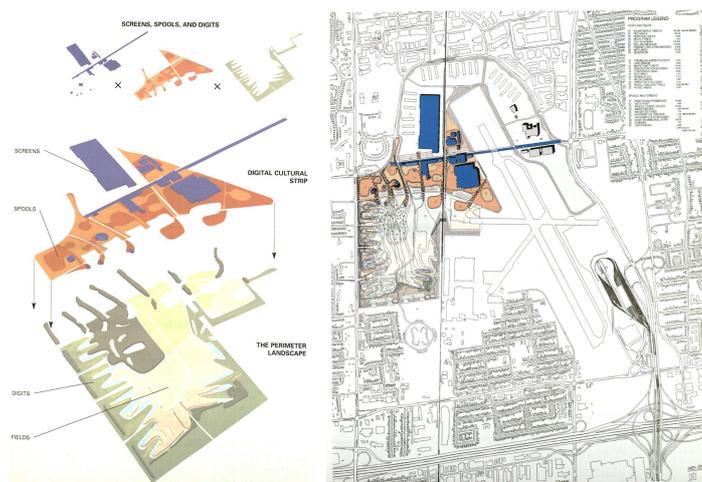
Fig. 21: Park's framework is built through three superimposed conceptual elements, including "digits," "spools," and "screens" (Czerniak 2001, pp. 84–85)

OMA Team's "Tree City" Scheme

The Tree City submitted by the OMA, Bruce Mau Design, and other entities won the international competition. Their proposal indicates a closer relationship between conceived urban condition and *large park*. The diagram employs a framework approach applied to the *large park* that is similar to that applied to their Parc de la Villette competition program.

① **Envisioning an Urban Condition**

Bruce Mau, one of the park designers, stated that "to imagine a park presumes an urban condition" (Mau 2000, p. 288). How designers conceive of the *large park* reflects how they perceive the urban context. In the OMA's team, Rem Koolhaas's viewpoint could have guided their concept of the park. He considered that "landscape," the essential element of urban formation, could depict the urban condition as "a sparse, thin carpet of habitation. […] Its strongest contextual givens are vegetal and infrastructural: forest and roads" (Koolhaas et al., 1995, p. 835). The core of Rem Koolhaas's idea responds to the above uncovered thought of *landscape urbanism*, the landscape-based urbanization becoming their imagination of urban condition. In other words, the OMA's proposal is rather sensitive to the 1990s North American urban landscape formulation of *landscape urbanism*. Here, the concept of *large parks* is connected tightly with the renewed theory of contemporary urban landscape.

Accordingly, the urban condition in the Tree City is understood ultimately by the designers as "low density metropolitan life", catalyzed and realized by growing landscape elements, such as trees:

> "Trees rather than buildings will serve as the catalyst of urbanization. Vegetal clusters rather than new building complexes will provide the site's identity. An urban domain constituted by landscape elements, Tree City attempts to do more by building less, producing density with natural permeability, property development with perennial enrichment." (quoted in Czerniak 2001, p. 75)

For the OMA team, the "low density metropolitan life" expressed exactly the landscape scene described by Rem Koolhaas. It may mean the generation of urban density and the conception of low density in the suburb of Toronto City. The Downsview Park, located "in the midst of one of the city's major potential suburban intensification areas," is aimed at becoming "a catalyst for suburban intensification" and bringing about the anticipated population growth (Glover 2001, p. 38). Guided by the construction of *large park*, additional 8,000 residents would live in this site. It is the process of producing urban density.

However, what will be emphasized in the plan is the formation of low density urban life through the distribution of trees and infrastructure. As shown in Fig. 22, they are precisely the circular vegetal (or landscaped) clusters complemented with 1,000 pathways.
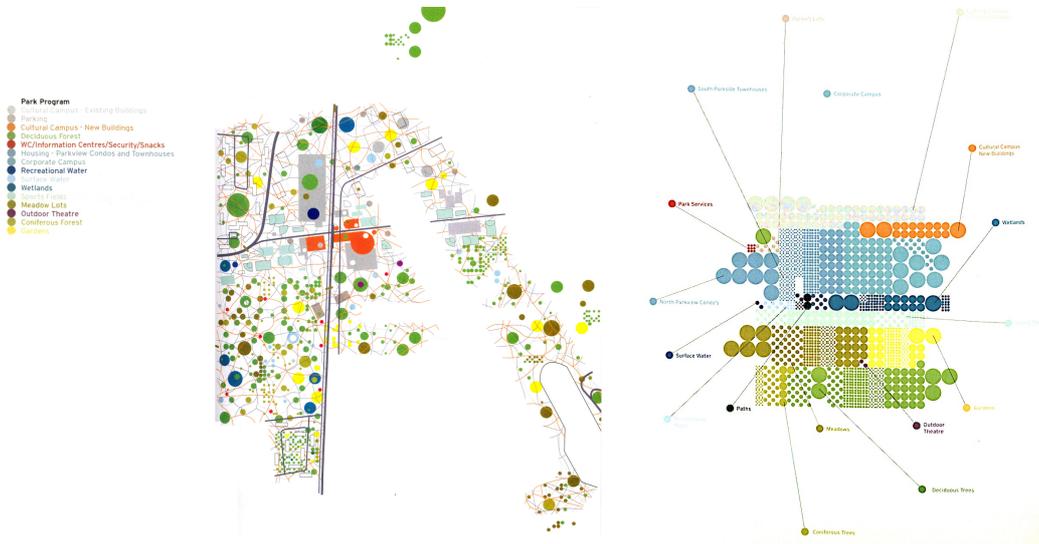
Fig. 22: Circular vegetal clusters together with crossing paths (Czerniak 2001, p. 76) (Left)

Fig. 23: Tree City's diagram for "program growth" (Czerniak 2001, p. 80) (Right)

② **Diagram for Process**

As regards the diagram, it has been early employed by Rem Koolhaas for the construction of *large park* framework in the 1982 Parc de la Villette competition. For OMA's designers, the virtue of the diagram in the large park planning generally lies in its "vague specificity that permits future diversity" (Somol 2001, p. 131).

In the Downsview Park, his team further explored this framework approach, which is displayed explicitly in a way of distributing circular vegetal clusters. In the entire site, these clusters of varying size are described vividly as the planted *seed for environmental expansion*. They seem as if they were circular icons representing the park components, and even "acted as programmatic and formal placeholders to be filled in appropriately over time" (North 2012, p. 11). According to Robert Somol, the aim of the diagram is not to shape specific spatial forms but to realize a meaningful environmental expansion with the maturity of vegetation, and this vegetation will satisfy with Tree City's emergent programs over time (Fig. 23). In conclusion, the diagram is used for the process of park growth.

3.3.3 Fresh Kills Park

The third case of North American large park is Fresh Kills Park, which is among the most familiar projects of almost worldwide professionals in landscape architecture. In the 2001 "Fresh Kills Landfill to Landscape international design competition", Lifescape led by Field Operations became a winning entry.

Lifescape is "an infrastructural strategy of emergent colonization that stages various systems and sets in motion a diverse ecology of events and the complex organizations of forms" (Corner 2007, p. 224). According to James Corner, Fresh Kills Park is essentially positioned as an urban "organic infrastructure" (Marton 2010) in accordance with the 2010 new understanding of the 21st century parks proposed by New York City Department of Parks and Recreation. As the former New York City Mayor Michael R. Bloomberg stated, "parks are crucial component of the urban infrastructure that will help our city address the challenges of the twenty-first century" (Bloomberg 2010). In North America, one of the challenges is how to greatly increase the ecological functionality of both contemporary cities and urban landscapes over time. In this sense, parks undoubtedly undertake the role of urban organic infrastructure.

In this context, the ambitious Fresh Kills Park project in New York metropolitan region emerges at the right moment, and becomes the convincing case on the aspect of constructing the 21st century park. In Field Operations' Lifescape Draft Master Plan, the anticipated goal of Fresh Kills Park is to "transform an industrial landscape into a state-of-the-art environmental preserve and innovative, contemporary urban park" (Field Operations 2006, p. 6). Hence, the site transformation calls for combining advanced "ecological restoration techniques with extraordinary settings" for wildlife, active recreation, public art, and facilities for diverse activities and programs.

The two crucial points in this goal are the following: the process of transformation organized in successional phases, and *matrix* as a conceptual approach to reconstitute "diverse life-forms and evolving ecologies" (Field Operations 2001, p. 6).
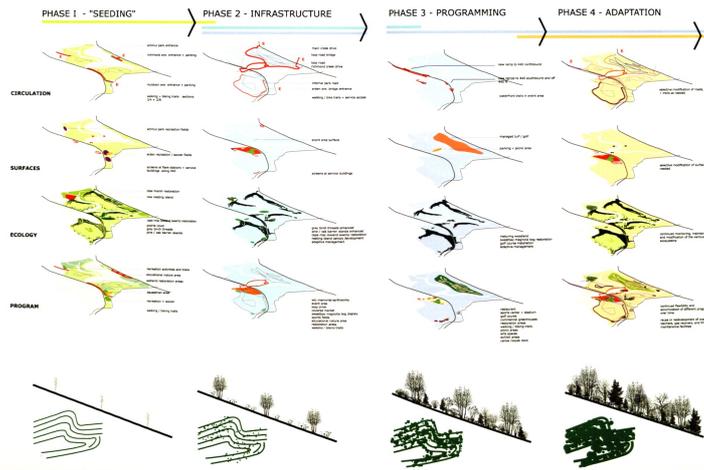
Fig. 24: The diagram of "phasing and development sequence" includes "seeding," "infrastructure," "programming," and "adaptation" (Field Operations 2001)

Process of Transformation

James Corner summarized that "lifescape is both a place and a process" (Corner 2005, p. 15). He pointed out that the process, which means "growing the park over time," is central to the project, because a large-scale site and its complexity could not be totally "designed" nor constructed overnight (Ibid.). Hence, the Fresh Kills Park calls for the process-orientated approach to construct facilities, cultivate native habitats, drive activities, programs, and finally realize the whole site transformation. This process would guide the site's development over the span of 30 years (Fig. 25), during which there are generally four successive sequence of stages. These stages are *seeding* (the re-establishment of original natural environment), *infrastructure*, *programming*, and *adaptation* (Fig. 24). These stages surround the formative processes of four directions: *circulation*, *surfaces*, *ecology*, and *program*, or the concluded three new systems: *circulation*, *habitat*, and *program* (Fig. 28).

Fig. 25: "Growing the park over time" means that the whole site transforms over the span of 30 years

(Corner 2005, pp. 16–17)

At the same time, the whole plan for the ongoing large park along the timeline is also clearly explained by James Corner through six principal implemented contents, based on "X"-scape. "X" represents "mound," "field," "open," "place," "event," and "life" (Ibid.). It also illustrates that through the continuous accumulation of the prior five stages, the landfill would gradually develop into Lifescape, the theme of Field Operations proposal. Specifically, the "X"-scape in various stages will be formulated as follows.
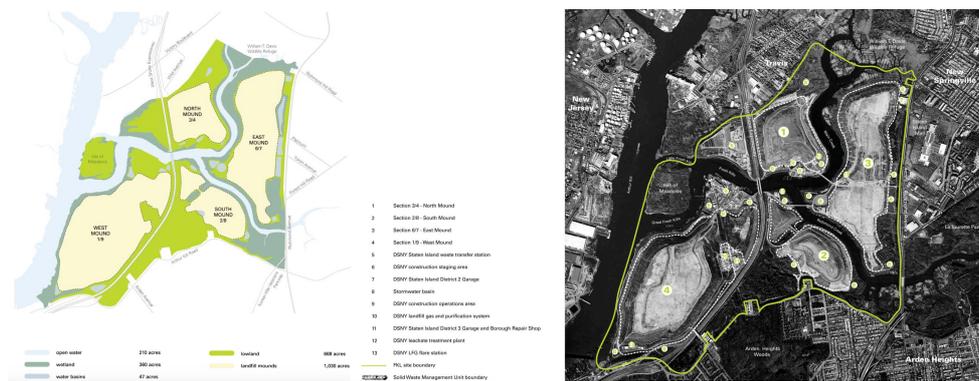
Fig. 26: The engineering ground of Fresh Kills is generally described as "mound-scape," including four landfill mounds and other existing land types, such as creeks, wetlands, and open fields (Field Operations 2006, p. 10) (Left)

Fig. 27: Ibid. (Right)

- "Mound-scape": In this stage, the Fresh Kills site is a closed landfill, without public access or amenity (vgl. Field Operations 2006, p. 51). This "engineering ground" (Corner 2005, p. 16) is comprised of the "mound-scape" together with other existing natural resources including creeks, wetlands, and open fields, such as grassland, meadow, and woodland (Fig. 26). Apparently, four landfill mounds lend an unusual large-scale topographic character to the Fresh Kills, as seen in Fig. 27. They totally embrace 150 million tons of waste, taking up 45% or 1,030 acres of the land. In conclusion, the "mound-scape" depicts the impressive site condition and its ecological challenge. Hence, it is important to offer a re-imagination of the huge open space with unique features of metropolitan location, openness, and ecology.

- "Field-scape": In the first three years of the conceived process, there are primarily two steps toward the land transformation: remediating the soil and stabilizing the slope using agricultural practice of "strip cropping" as an inexpensive and large-scale technique, and subsequent "propagation of plant communities" for emerging native habitats across

Fresh Kills over time. It is concluded as "field-scape—manufacturing soil and habitat" (Ibid.).

- "Open-scape": Thereafter, by initiating access around the park and activity, the park is built as an urban open space. Connecting the Fresh Kills to the surrounding urban transportation system is the main approach to establish the accessibility at a large scale. Urban activities could unfold with the solution of access problem accordingly.

- "Place-scape": In the first 10 years, the shape of place begins. Ground manipulation as the main content aims to generate earthwork and landform buildings for supporting park programs.

- "Event-scape": In the next 10 years, the event-scape will occur, after most of the facilities and infrastructures have already been well organized, and the original natural environment has been re-established in the park place. That is to say, the first two of four stages, *seeding* and *infrastructure*, have been accomplished. Hence, event-scape means the dynamic situation of "diversifying ecologies and uses" (Ibid.), suggesting the stages of *programming* and *adaptation*.

- "Life-scape": During the 30-years development, the Fresh Kills Park and new life would grow. "Life" actually stands for the coexistence of wildlife and sociocultural life across "a mature biomatrix" (Ibid.). In conclusion, the Lifescape proposes "a growth emergence from past and present conditions towards a new and unique future" (Ibid.).

Matrix as a Conceptual Approach

By citing a landscape-ecological concept of *matrix*, Fresh Kills Park's complex systems is conceived. As discussed above, the *matrix* is among the important spatial patterns in the 1986 Richard Forman and Michel Godron's studies. Matrix is characterized by "porosity (or the density of patches), boundary shape, networks, and heterogeneity" (Pollak 2007, p. 105). It "plays the dominate role in the functioning of the landscape, including the flows of energy, materials, and species" (Forman et al., 1986, p. 159). In conclusion, what will be reiterated is that the ecological *matrix* in a dynamic fashion not only assumes a leading role of containing and connecting habitats with diverse sizes and shapes to support *heterogeneity* but also guarantees the interactions and movements of all forces and agents.

Aside its concept and ecological functionality, *matrix* could be employed in the *large park* planning and design because of its holistic and multiple views. This point has been pointed out by architect Linda Pollak, as follows:

"In a design project, a matrix can support the construction of a kind of unity that does not rely on a single vision or overarching order to manage in creative and operational terms the interactions between multiple perspectives, scales, and types that attend the development of a complex urban ecological landscape." (Pollak 2007, p. 102)

Moreover, from the analytical perspective, *matrix* is "an initial framework" (Prominski 2005, p. 32), precisely through which a *large park* site could take form, evolve, and transform flexibly to accommodate the varying needs of a changing environment to during the process. In Lifescape, *matrix* was used as a conceptual approach to create a multi-layered and dynamic spatial framework. It is composed of superimposed site layers past and present, including existing systems as well as three new systems: *habitat*, *circulation*, and *program* (Fig. 28). The framework is cast in view of the four stages of development, namely, *seeding*, *infrastructure*, *programming*, and *adaptation* over a 30-year timeframe (vgl. Pollak 2007, p. 113).
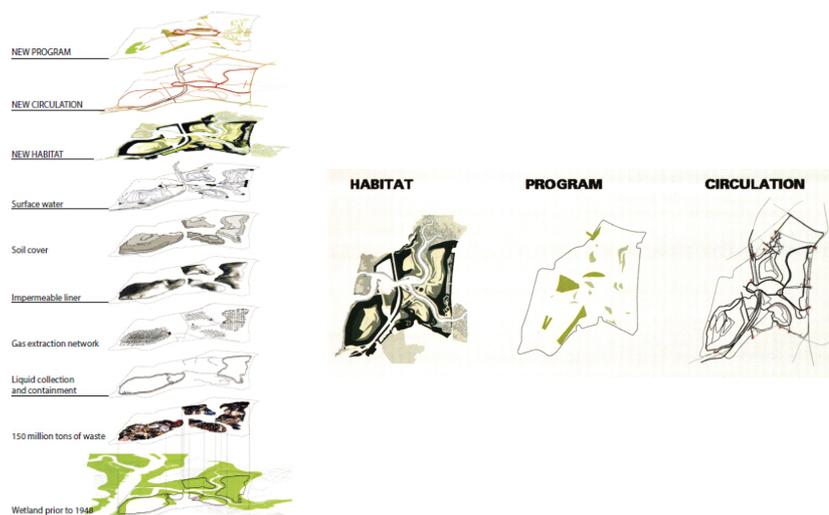
Fig. 28: The superimposition of existing systems on Fresh Kills site is established (left), and three new systems of "habitat," "circulation," and "program" constitute the multi-layered framework (right) (Field Operations 2006, p. 12)

In fact, the superimposition of multi-layered structure applied in landscape analysis may originate from Scottish landscape architect Ian McHarg in the 1960s, who pioneered the concept of ecological planning. According to him, it is "a method of landscape analysis that has contributed to an understanding of the layering of different parameters in the design of a landscape" (McHarg 1969). The method is frequently used especially in geographic information systems. Essentially, he "overlaid maps of diverse natural and social factors to better understand the interaction of natural and social processes" (McHarg 1969; Spirn

2014). However, the maps shaped by deterministic geologic processes are relatively "closed" to interactive influences from outside the local area (vgl. Hill 2001, p. 92).

To a certain extent, the present-day *large park* planners and designers inherited Ian McHarg's layering approach. At the same time, considering the open-ended exchanges of energy and information across urban landscapes, they further developed the dynamic *matrix* under the influence of new ecological ideas that are distinguished from Ian McHarg's approach. The most notable is how interactive processes operate in space and time is visualized by the *matrix* (vgl. Spirn 2014).

Specifically, three coordinated conceptual diagrams, namely, *threads*, *clusters* (or *islands*), and *mats* constitute "an expansive green matrix of infinite horizons, interconnected ecosystems and pathways" (Field Operations 2006), as presented in Fig. 29. These conceptual diagrams are understood collectively as "the agent of a fluid set of ecological systems, allowing the interaction of programmatic, cultural, and natural elements to create the complex, synthetic environment" (Pollak 2007, p. 107). Hereto, Field Operations formulated them with following different connotations:

"Linear threads direct flows of water, energy and matter around the site, injecting new life into otherwise homogenous areas. Surface mats create a patch-like mosaic of mostly porous surfaces to provide self-sustainable coverage, erosion control and native habitat. Clusters of islands provide denser nests of protected habitat, seed source and program activity." (Field Operations 2001, p. 7)
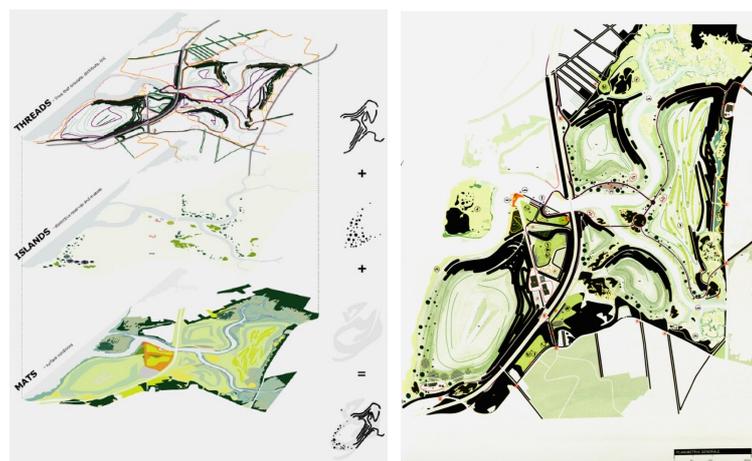
Fig. 29: Three coordinated diagrams of "threads," "islands," and "mats" (left), and the site plan of "expansive green matrix" (right) (Field Operations 2001)

Influenced by James Corner's *cultural imagination*, this chapter explains the reason why North American *large parks* appear as the organic park model in former complex and contaminated industrial sites, and argues how these ecological ideas, terms and conceptual landscape-ecological patterns are applied to *large park* conceptions, based on James Corner targeting at design in landscape architecture. *Complexity*, *resilience*, *processes*, *performance*, and *indeterminacy* are essential concepts to understand *large parks in flux* for social uses and ecological sustainable effects. In recent years, through international competitions, increasingly *large park*-related projects have been brought to the public, and triggered far-ranging discussions and controversies over park ideas, approaches, and insightful design philosophy. Meanwhile, these discussions demonstrate that certain North American planners and designers tend to put their unique *large park* conceptions into practice following the framework of *landscape urbanism*. The two points have been indicated by Charles Waldheim in his 2006 "The Landscape Urbanism Reader" in which Downsview Park and Fresh Kills Park are taken as examples; "several recent international design competitions for the reuse of enormously scaled industrial sites in North American cities have used landscape as their primary medium" (Waldheim 2006, p. 46). These *large park*-related projects are "representative of these trends and offer the most fully formed examples of landscape urbanism practices to date applied to the detritus the industrial city" (Ibid.).

According to research, the growth in the number of North American *large parks* challenges the way large-scale urban parks are defined, when professionals began to criticize a mode of fixed thinking, also described as *either-or*. This prompts a critical consideration whether the German large-scale parks could be re-defined without using (*post-industrial*) *landscape parks* to describe the changing urban landscape. This vision has been mentioned in the introduction (see pp. 3–4). As a result, the German model is also referred as *large parks* to represent the idea of 'large' thinking for the whole region. By using the German *large parks* as a strategy, urban regional transformation may be realized extensively. Along this line, the 'structuralistic' model of German *large parks* will be analyzed in Chapter 4 in terms of theory and practice.

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4 Conception of German Large Parks

The theories and practices of contemporary urban landscapes are expressed by *large parks* in not only countries in North America but also Germany. In this sense, Germany is involved in the cross-cultural study, owing to the author's learning background and experiences. At the same time, its park paradigm is influenced profoundly by Peter Latz and Partner that dedicated themselves to *post-industrial landscapes* and set examples in planning and design of large-scale parks tied up with complex landscape context. As argued in Chapter 2, the German *structuralistic park* model, with the contexturalistic-structuralistic approach, is also used by other Germans, Germans abroad (e.g., Peter Latz projected landscapes in Israel); and foreigners working at German local projects (e.g., Gilles Vexlard in Riem, München). In parallel with the creative cultural condition of North American parks, the German *large parks* will be analyzed in the cultural setting of urban regional transformation. Either regarded as a cultural landscape or a strategy for site transformation in urban renewal, the German park model reflects the cultural contextualization, using the critical approach of *critical structuralism*. To qualify the German *large parks*, a qualitative analysis is established. Five characteristics was used in the analysis in the same process as in North America, but with entirely different interpretations.

4.1 Large Parks in the Cultural Context of Urban Regional Transformation

Identified as the "unconventional 'park'" (Latz 2008b, p. 349), German *large parks* "primarily suggest a landscape and secondly a park" (Treib 2009, p. 66), although the naming word "park" seems to be obvious. To be precise, *landscape* refers to the valuable urban cultural landscape, and *park* bears almost no relation to the 18th century English landscape parks. Instead, *park* marks a new landscape form that is closely related to the discovery of a new kind of nature in the industrial ruins, that is, "specifically urban-industrial nature" (Kowarik, 1992).

Compared with North American model, which responds to the context of creativity and *cultural imagination*, German *large parks* are analyzed and interpreted in the context of cultural contextualization of urban regional transformation. Hence, *large parks* are analyzed within the scope of *urban region*. The concept and its emergence was explained by European scholars, as discussed in Chapter 2 (see p. 27). As interconnected urban green open spaces, German *large parks* reversed the old dictum of *towns devour nature*. City and nature are more syncretic and penetrative with each other.

Moreover, in the transformation and redevelopment of urban regions, the landscape became a key issue (vgl. Gailing 2005, p. 5). This was mentioned in Chapter 2 when the situation from which the German concept of *large parks* emerged was examined. Based on this point, the German *large parks* in urban regions are regarded as an essential strategy to realize a series of fundamental changes. They also take socioculture, ecology, and open space policy into considerations. A considerable amount of attention has been given to the qualities and potential of landscape in the post-industrial site transformation.

In summary, the German *large parks* are discussed first in this section within urban regions, and then they are conceived as urban cultural landscapes. Finally, they are discussed to identify the transformation.

4.1.1 Large Parks in Urban Regions

The German *large parks* are intertwined inextricably with the concept of *urban region* through the European analyses, from the perspective of dissolved urban structure. According to German scholar Ludger Gailing, urban regions and their urban landscapes are shaped by "spatial trends like urban expansion and urban sprawl, and the fragmentation of open space by the construction of infrastructure networks and the consequent ecological problems and degradation of landscape aesthetics" (Gailing 2005, p. 6). Generally, these urban spatial trends, together with regional spatial problems in terms of society, ecology, and aesthetics, become the significant regional background for park construction and development. They lead the German *large parks* closely linked to improve corresponding spatial qualities as well as people's life. They are naturally associated with urban system, and no more than an isolated park system. This description reflects the integration of the German *large parks* into the wider urban regions in a holistic view.

Hence, it is essential for planners and designers to consider how to manage the complex interrelations between *large parks* and surrounding environment in urban regions, and to build their connections immensely. From this point, the holistic perspective is extremely required, and the 'structuralistic' approach is regarded to be effective. The Duisburg-Nord Landscape Park project in this section will particularly explain the establishment of interconnections between the external and the internal, taking line of sight, horizon, transportation system for accessibility, and local special landscape image and elements into consideration. In this sense, the German *large parks* could largely combine the region and the local.

4.1.2 Large Parks Conceived as Cultural Landscapes

As expressed in Chapter 2, the research on large-scale parks is positioned at the level of urban landscapes. Meanwhile, it has been always crucial for German landscape architecture to focus on the perspective of *cultural landscape* (*Kulturlandschaft*). Combined with this perspective, the German *large parks* are viewed as an essential urban *cultural landscape*.

The concept of *cultural landscape* requires an examination. In the early 20th century, German geographer Otto Schlüter first defined this concept formally as an academic term (vgl. James et al., 1981, p. 177). Despite of its various understanding, debates and subsequent development, the geographical point of view essentially lays a foundation for analyzing German *cultural landscape*. From the geographical perspective, land, people, and their interaction are all treated in an objectivistic view. In an objectivistic understanding, the *cultural landscape* is regarded as a physical object related to people's good life (vgl. Kirchhoff et al., 2009, p. 25).

However, the perception of *cultural landscape* is perceived much earlier than its academic definition. It emerged as a harmonious "unity of land and people" (Riehl 1851) ideally interpreted as *Heimat*, which means homeland "evolved through the interactions of adapting to nature and cultivating it" (Hauck et al., 2015, p. 15). Tracing back the original meaning of *cultural landscape*, German biologist Wolfgang Haber stated: "when hunters and gatherers settled down to become farmers, they cultivated (wild) nature, thus founding agrarian culture, agri-culture, by transforming the nature into cultivated land. […] It was from this cultivated landscape that the human environment developed at the expense of nature" (Haber 2010, p. 17). In short, the term *second nature* suggests that the original understanding of *cultural landscape*, which connects the agricultural or pre-industrial society, and cultivated nature are represented in the idealized interpretation.

Moreover, with the technical and societal development and cultural advancement, the *cultural landscape* is generally developed to a large extent. The emergence of urban culture because of the production surpluses of agriculture marks the transition into industrial age (Ibid.). During the 1960s and the 1970s, with the rapid expansion of social production and life, German society began to enter into a new stage, post-industrial society, which prompted the *cultural landscape* to evolve into another meaning.

In essence, what has been found in urban industrial sites stimulates the continuous understanding of *cultural landscape*. There are hardly harmonious transitions; in the structural change towards the post-industrial society, there were *Chaos, Wirrwarr, und Brüche* (*chaos, confusion,* and *fractures*) (Dettmar 1999, p. 141). Particularly since the 1960s, with the establishment of *Stadtökologie* (*urban ecology*) and botanists' observations

of derelict lands in the 1980s, the *urban-industrial nature*, which is the specific nature of urban industrial sites, has been found and discussed by botanists, nature conservationists, and landscape architects. The term *nature of the fourth kind* (Ibid.) implies that disordered nature in the city is distinguished from the cultivated nature in the traditional meaning of *cultural landscape*. The significance of this new interpretation of nature lies in starting to associate old industrial sites with a particular nature. For instance, wild geranium on a derelict railway track reflects an image of *urban-industrial nature* (Fig. 30). The new period is also pointed out by Peter Latz: "The time for a new understanding of nature has come" (Latz 1993).

Fig. 30: Wild geranium on a derelict railway track reflects an image of urban-industrial nature (Dettmar etal., 1999, p. 142) (Left)

Fig. 31: Through botanists' observation of derelict lands, new species in the shadows of spoil heaps and head frames evoked the new understanding of nature (Siemer et al., 2010, p. 59) (Right)

In fact, through the observations of derelict lands, botanists discovered a surviving chance of "new species in the shadows of spoil heaps and head frames" (Siemer et al., 2010, p. 59), which largely evoked the above new understanding of nature, as shown in Fig. 31. With the cognition of an updated concept of nature, the relationship between urban and nature has changed. Apparently, urban wildness or wild nature is accepted vastly and integrated into *large parks*. As Peter Latz said, "*park soll öffentlicher Stadtraum und gleichzeitig Wildnis sein, in der natürliche Reize wirken können*" (Latz 2012, p. 2). Park should be an urban open space and, at the same time, wilderness in which natural stimuli would function. The perceived old industrial sites with wilderness that will be remolded as *large parks* become a new form of urban *cultural landscape*.

In conclusion, the analysis of the German *cultural landscape* shows that its understanding is inseparable from the perceived nature in a specific society. Today's urban *cultural landscape* is connected naturally to the *urban-industrial nature* in German post-industrial society.

4.1.3 Large Parks for Site Transformation

There is a precondition of *large parks* for transformation, which is stated by Peter Latz as "a calm acceptance of the (industrial) structures" (Latz 2004, p. 150) in the philosophy of "accepting a fragmented world" (Latz 2003) or "accepting the materials found on site, without placing them in traditional categories like beautiful or not beautiful, but just looking at whether they could fit in with the language system or not" (Latz; Weilacher 2008, p. 99). He explained that "our new conceptions must design landscape along with both accepted and disturbing elements, both harmonious and interrupting ones. The result is a metamorphosis of landscape without destroying existing features, an archetypal dialogue between the tame and the wild" (Latz 2003).

Peter Latz's philosophy altered the course of transformation of a former industrial region. The transformation does not involve a transition of the existing structures from chaotic and fragmented to harmonious image of parks, as this manner of transition would change the physical characteristics of sites radically and lose almost all site *information*, including local history and memory. In this sense, as Peter Latz remarked, the *large park* goes beyond a harmonious image of painted landscapes in an ideal situation (vgl. Latz, 2012). In the transformation, what needs to be considered is acceptance, protection, and wise use of existing industrial structures and elements.

In the site transformation, "accepting the materials found on site" actually elicit a core concept of "information" which is grasped by Peter Latz. He pointed out the significance of *information* through an example of Duisburg-Nord, in which once Peter Latz and Partner said: "*wenn wir das einfach alles abreißen und für das Restgeld noch etwas machen, dann bekommen wir eine so geringe Informationsdichte pro Quadratmeter, dass das nur langweilig werden kann*" (Latz 2017). These words signify that if they just tear everything down and do something for the rest, then they would get so little information per square meter that it makes the site boring.

And it is important that he mentioned *Informationsdichte* (*density of information*) to emphasize abundant and accumulated *information* in the history. In the spatial and temporal dimensions, all the meaningful *information* to landscape planning and design is considered abstractly by Peter Latz as *Informationsströme* (*information flows*) in chaos, which should be grasped and handled, and be condensed and superimposed in both landscape elements and structures (Ibid.). The process for planners and designers is exactly ongoing "decision-making processes" (Latz 2008b, p. 333). They require to find and discern "what force the existing objects already have, what density of information they already possess and what density of information first has to be introduced into the project", quoted in Udo Weilacher's 1996 book "Between Landscape Architecture and Land Art". Given these, Peter

Latz offered his general ideas about *information*, in the 2017 manuscript version of Informationsdichte von Landschaft:

> *"Hier ganz abstrakt zu sagen: das sind Informationen, die wir einbinden—entweder indem wir darauf gucken oder Nutzungen suchen, dann heißt das, wir bleiben in der Historie, gehen aber nicht zurück, sondern in die andere Richtung: nach vorne."* (Latz 2017)

He concluded the understanding of *information* that is integrated either through looking at it or looking for uses. That is to say, in the *information processing* planners and designers may obtain a large amount of *information*, among which they explore its significance of uses and find the elements for uses in landscape. These semantic and pragmatic aspects are Peter Latz's two of three levels of *information processing* (*drei Ebenen der Informationsverarbeitung*): "*Die Bedeutung zu nutzen—das ist die Semantik*" and "*Die Elemente zu finden—das ist die Pragmatik*" (Ibid.). Moreover, Peter Latz reminded professionals to concern with the role of traces of history in the *information processing*, which not only directs to going backward, but also opens to forward.

Not only the above two levels, Peter Latz's *information processing* also embraces the third level of "syntax," which helps him to benefit from the chaos and is closely related to structures (Ibid.). To analyze the relationship between *information* and *syntax*, he stated from the linguistic perspective: "The language of things and the way things are combined create information that is linguistic in character." "If they are to acquire this linguistic character, they need everything that language constitutes: they need a diversity of accurate terms and a strong syntax" (quoted in Weilacher 2008, p.87). The "syntax" or "syntactical" design concept can be traced back to Peter Latz and Partner's Saarbrücken Hafeninsel planning. Its *syntactical* concept "intended to get by with a minimum of interventions, include the existing ruderal vegetation and deliberately work with the information levels available on site" (Weilacher 2008, p. 86). Instead of "giving the Hafeninsel a superficial facelift and transforming it into a neoclassical picture-book park," the *syntactical* design "was not just to ensure a viable basic structure and thus the rhythm of the park, but also to give the landscape a voice by linking up what is already there with new design elements" (Ibid.).

In this sense, Peter Latz's *syntax* of landscape shapes in the planning and design through the *information processing* of chaotic site. The level of *syntax* also reflects a rational and critical perspective to the conventional parks. Peter Latz's *syntactical* structures in German *large parks* are therefore analyzed and explored based on the concept of *information*, because he

considered that landscape is "not the images, but the abstractions, schemata of information layers or single systems that are required for understanding structure" (quoted in Weilacher 2008, p. 8). His understanding of structure elicits the following content of the 'structuralistic' approach which is applied to German *large parks*.

4.1.4 Large Parks in the Structuralistic Approach

As mentioned in Chapter 2 (see p. 39), initially developed in structural linguistics, the *structuralism* has affected the field of architecture in the 1960s, when there was a movement of *structuralism* (vgl. Peisl 2014, p. 3). The movement particularly in the Netherlands was characterized by "rulebased arrangement, congeneric spaces without hierarchies, flexible expandability and mutable floor plans" (Ibid.). Criticizing the "*modernistische Ignoranz von Geschichte*" (*modernist ignorance of history*) and "*alle rein funktionalistischen, sektoralen sowie stark formal orientierten Betrachtungsweisen*" (*all purely functionalist, sectoral and strongly form-orientated approaches*) (Weilacher 2009), Dutch structuralist and architect Hermann Hertzberger offered the following important principles of analysis and design of the *structuralism*:

> "*Jede Lösung an irgendeinem Ort und zu verschiedener Zeit ist eine Interpretation des Archetypischen. [...]. Wir können nur etwas Neues schaffen im Sinne einer anderen Interpretation bestehender Bilder, diese neu bewerten und sie für unsere Situation geeignet machen. […] Entwerfen kann nichts anderes sein als Fortbauen auf dem Darunterliegenden und es sozusagen verbauen. Der Gedanke, jemals von einem unbeschriebenen wießen Blatt auszugehen und dieses unvermeidlich mit unwirklichen und sterilen Konstruktionen zu füllen, ist unsinnig und hat auch negative Folgen.*" (quoted in Lüchinger 1981, p.24)

His idea of the architectural *structuralism* was put forward exactly in the context of critique and restraint of the modern functionalist idea employed in European cities. This background has been stated along with the explanation of *critical reconstruction* of contemporary city in Chapter 2 (see pp. 21–22). Significantly, Hermann Hertzberger's statement revealed that we can only create something new in terms of a different interpretation of existing images, re-evaluate them, and make them suitable for our situation. *Entwerfen* (*design*) is likely to be constructed within cultural interpretations based on *Darunterliegenden,* which is understood as existence underlying on site. He believed that the concept of *design* will not be derived from *unbeschriebenen wießen Blatt* (*a blank and white sheet of paper*). Hermann Hertzberger's analysis of the relationship between *Darunterliegenden* and *Entwerfen* is reminiscent of Peter Latz's key concept of *information* which requires to be found, handled,

and introduced into the planning and design according to one's own interpretation.

However, the 'structuralistic' approach in German landscape architecture exceeds the 'structuralistic' philosophy of architecture (vgl. Peisl 2014, p. 3). Peter Latz expanded the meaning of *structuralism* by using certain theoretical aspects of the Dutch architectural movement (Ibid.). As mentioned in Chapter 2 (see p. 40), he "found his way to structuralism via the writings of architects like Aldo van Eyck and Herman Hertzberger […]" (Weilacher 2008, p. 180), and his "vocabulary identifies him as convinced exponent of structuralism in landscape architecture" (Ibid.).

Connected with the aforesaid explanations in Chapter 2, the *critical structuralism* interpreted by Peter Latz as one of the critical approaches in research is highlighted in the context of *critical reconstruction* in German landscape architecture, which has manifested in the development of different planning styles since the early 1980s. An example is *perspektivischer Inkrementalismus*. *Critical reconstruction* for Peter Latz is to cultivate a "fantastic landscape that will follow the industrial age that we have to address in a new and careful way" (Latz 2002 unpulished, quoted in Weilacher 2008, p. 114). His "new and careful way" is exactly the same as the critical 'structuralistic' approach in this study.

For this approach, the material and deep structures of site for planning and design are especially valued by Peter Latz. As he declared, also quoted in the "Syntax of Landscape" (Weilacher, 2008, p.87):

> "Yes, I am definitely certain at the bottom of me that in case of doubt, structure is more important than form. That is quite certainly correct, […] structures are relatively unattractive at a first glance. They are not very exciting, they are usually neutral, something in the background, essentially, like the percussion in a band. The solo trumpet steals the show, but there is only a rhythm because the bass and drums create it. They both have to be there, however."

In this situation, Peter Latz applied the 'structuralistic' approach to practices of many park projects. These parks offer his individual interpretations of *syntactical* structures which Udo Weilacher analyzed:

> "He interpreted the found structures anew, enhanced them with additional layers of meaning. He integrated the old and the new to form landscape structures that are capable of growth, change and adaptation and that can be read and individually used in new ways over and over again by the widest variety of visitors." (Weilacher 2009)

This analysis implies that the structures previously found on site are reinterpreted, are enriched with further levels of significance, and are integrated for their capacity to growth, adjustment, and transformation through linking the old and the new. Moreover, Peter Latz's understanding of structures is not just from an objective standpoint, although he respects abundant and accumulated *information* of sites in the history. Instead, his idea of structures essentially reflects an intersubjective perspective in philosophy which means "existing between conscious minds; shared by more than one conscious mind," with reference to Oxford Dictionaries. This point illustrates that the structures can be interpreted differently, and used individually by diverse visitors. Lucius Burckhardt's explanation in 1985 could appropriately clarify this perspective:

> "Anyone designing a landscape must consider whether the meaning he is creating is such that it is comprehensible to other people, and also to people from other cultural backgrounds. In our pluralistic society, a design must be open to multiple interpretations." (Burckhardt 1985, p. 241)

Moreover, two aspects of his 'structuralistic' approach should be emphasized. Primarily, the structures are adopted to cultivate and develop diverse spaces for social appropriation in everyday life. According to Udo Weilacher: "Giving structures the ability to be freely appropriated by creating polyvalent spaces was one of the central concerns of Structuralism [...]" (Weilacher 2009). The free appropriation of structures through the creation of polyvalent spaces is one of the central concerns of *structuralism*. His statement reflects the shaping of diversity and difference of space, as well as the various appropriation of space together with forms of activities, programs, and events, which will be explained from the qualitative perspective in attempt to study the German *large parks*.

Another aspect of his 'structuralistic' approach is associated with *minimal intervention* or the *smallest possible intervention*, which Peter Latz had adopted from Bernard Lassus and Lucius Burckhardt (vgl. Weilacher 2008, p. 116). In the site transformation, Peter Latz explained that "it is more about taking items over in their totality and understanding their original functions. [...] we want to keep them in their role and in their historical function, and sometimes invest the surviving building components with new meaning that can stimulate new readings of existing material" (Ibid.). The explanation is precisely the first two aspects of *information processing* at the semantic and pragmatic levels. Meanwhile, it expresses the principles that Peter Latz follows to realize the *minimal intervention*.

In view of his principles, Peter Latz "rejected the notion of a 'master plan'" (Rosenberg 2007, p. 213) and "never wanted to draw an overall plan" for his parks, such as the Duisburg-Nord Landscape Park (Weilacher 2008, p. 111). Instead, he assumes his own

landscape *syntaxes*, which are "a weaving of industrial structures" of *informational layers*, "abstract portrayal of formative basic elements of the landscape," and concerns "linking independent structural layers" (Ibid.) to form superimposed landscape systems in which diverse and flexible spaces could develop with multiple social uses in everyday life. The unique *syntaxes* are concluded by Peter Latz as abstract structures, "overlay and connection of independent conceptual layers and structural elements" (Latz 2008b, p. 353). In short, he chooses this contexturalistic-structuralistic approach to achieve his analyses and planning of sites, and keep substances in the industrial age at the greatest extent, thereby offering new interpretations of old industrial elements and remains.

In summary, influenced by the Dutch architectural *structuralism*, the German contexturalistic-structuralistic approach to its *large parks* in this study is expounded gradually in consideration of Peter Latz's interpretations. As among the critical approaches, it builds up unique landscape *syntaxes* or structures through the *information processing* instructive to the free development of diverse and different social spaces, in terms of his understanding of *minimal intervention* in the transformation of a former industrial site.

4.2 Qualification of Large Parks

In the qualitative analyses of the North American park model, ecological and social qualities have been stated in the third part, embracing specific characteristics of complexity, diversity, sustainability, appropriation, and identity. In the same manner, the German *large parks* take into consideration these qualitative features on aspects of urban ecology and society.

4.2.1 From the Qualitative perspective

The author analyzed the North American *large park* model, employing both the quantitative and qualitative methods. The quantitative perspective is reasonable for exploring that model based on its focus on the larger size that is closely related to the higher ecological *performance* and functionality. The logical proposition is rationally interpreted precisely in North American cultural context. Meanwhile, as regards qualitative method, certain basic explanations have been explained clearly.

For German landscape architecture, the research on urban green open space has changed the method from the 20th century quantitative to present-day qualitative analysis (vgl. Schöbel 2006, p. 38). The principal reason for this transformation lies in social and spatial changes that have led to a change in the arguments for the qualification of urban green open space (Ibid.). With these changes, the quantitative method reflects the finiteness on the aspect of

defining the open space. Therefore, in the face of methodological alteration, the German *large parks* are discussed in the qualitative method accurately, as essential contemporary *urban landscapes*. Here, the proposed five characteristics are stated for "qualitatively developing space" in Germany (Latz 2008b, p. 333).

- Complexity: The complexity of German *large parks* would be given in the design process. Planners and designers need to find out complex site *information*, including visible and invisible layers of *information* and elements, and then to influence the layering of these elements embedded in each layer (Ibid.). Here, professionals are required to perceive deeply and understand a series of intricate and interweaved *information* on a specific site. They also should evaluate elaborately and choose purposefully these *information* and elements to build the *large park* structure, combined with professional's own views and ideas. It is the complex design process of blending existence with creativity. Alternatively, the *large park* is a construct of both the mind and the object, which is a process regarded as complex.

  Notably, complexity means more than the complex reality of destroyed and fragmented urban spaces that may be difficult to restore. Accordingly, the aim of German *large parks* is not simply to improve the ecological and social conditions from the perspective of supporting functionality. From Peter Latz's point of view, complexity indicates the ongoing "decision-making processes" (Ibid.) in park planning and design (see p. 92).

- Diversity: The diversity and difference of space are generally understood based on the acceptance of the diversity of urban society. This point has been expounded in the second part of German urban landscape analyses. The interaction between urban space and complex social construction leads to the difference. Specifically, the spatial diversity of *large parks* is largely embodied in multiple spatial forms and categories with distinguishing elements. In addition, at the ecological level, there is also biodiversity for ecological stabilization and dynamic balance, and the conservation of natural resource. In short, the German *large park* diversity manifests on aspects of society and ecology.

- Sustainability: The sustainability is generally reflected based on three crucial layers that also offer an insight into the *large park*s, including "*interpretiert Geschichte und Erinnerung*" (*interpreted history and memory*); "*bereitet Räume für soziale Aneignung vor*" (*spaces prepared for social appropriation*); and "*die zeitgemäße Darstellung von Natur*" (*a contemporary presentation of nature*) (vgl. Latz 2012, p. 2). The spaces in the *large park*, involving history, perception, society, and ecology are utilized sustainably and developed local sites at present and in the future. The sustainable spaces are shaped over time.

In addition, in the transformation, "the unseen, the unwanted, the leftover" at post-industrial sites would come back to new life by planning and design (Vaccarino et al., 1997, p. 138). They would undergo a radical conversion in terms of functions and meanings, and therefore get the sustainable development through rediscovery and reuse. As Peter Latz stated, new uses and structures produce a creative tension and allow new meanings to emerge (quoted in Höfer et al., 2013, p. 407). In this sense, the sustainable transformation of *large parks* is realized and the recycling landscape is formed.

- Appropriation: Through planning and design, the spaces of *large parks* are prepared for social appropriation in diversified and everyday life (vgl. Latz 2012, p. 2). Diverse spaces are offered to satisfy the different willingness and demands of individuals, groups, communities and society for different uses. Through the practical appropriation in forms of activities, programs and events, the *large parks* could serve for individuals. The diverse spaces are further developed by the interaction between space and people over time. Concurrently, the process of social appropriation reflects the characteristics of equality, liberty, diversity, and autonomy.

- Identity: what has been always emphasized is the structural identity of German *large parks*. It is based on Peter Latz's unique design philosophy of "decoding," understanding and re-interpretation, and "new syntax of landscape" (Latz 2008b, p. 333). "The landscape of the park is a rational construct whose layers of information contained in its structure were preserved and transformed" (Latz 2013b, p. 104). He depicted the structure as "robust" and "fascinating" (Ibid.). The understanding of structural identity indicates that the derelict industrial land could be reorganized and transformed rationally based on inherent material and spatial connections, without destroying the features of a specific site.

4.3 Practical Projects of Large Parks: Duisburg-Nord Landscape Park, Riemer Park

Analyzed in parallel with North American projects, two essential German projects subjected to design competitions are likewise presented in this section: roughly 570-acre Duisburg-Nord Landscape Park in Duisburd-Meiderich, Germany (1990) and about 494-acre Reimer Park in Munich, Germany (1995). These two practical projects are chosen as examples, as they reflect *large parks* fully as a spatial development strategy to realize the transformation of an urban space or post-industrial land; in addition, both of their analyses and planning uses 'structuralistic' approach. Peter Latz's Duisburg-Nord Landscape Park marks an acknowledged *large park* project at the post-industrial site. Gilles Vexlard's

Riemer Park from the regional perspective is an integrative spatial redevelopment project. It will illustrate that the generation of park is based on the unique image of *cultural landscape*, as well as combined with multiple land uses for rational disposition of infrastructures, business, housing, and green open spaces.

4.3.1 Duisburg-Nord Landscape Park

Within the Project of Emscher Landscape Park

Based on the regeneration program in the International Building Exhibitions (IBA), Emscher landscape park from 1989 to 1999 was presented as one of the key projects of the IBA. The Emscher landscape park was built for the creation of a park system through integrating and developing scattered open spaces. It acts as a "green connector" throughout the residential areas of Ruhr valley (Fig. 32) (Auer 2010, p. 17). The basic principles of development are to protect, join together, and improve existing open space to create new kinds of park at old sites, to build up the area's own park infrastructure and integrate many individual projects into a coherent park for the whole region (vgl. Rossmann 2009, pp. 154–155). These are more like devising strategies at the regional level, and cannot be simply paraphrased with the vision of park itself.
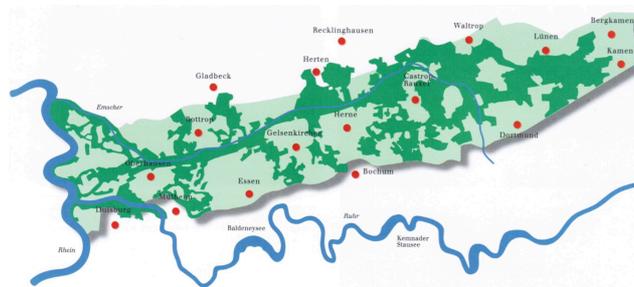
Fig. 32: The IBA Emscher landscape park acts as a "green connector" through green corridors to connect 17 cities (Auer 2010, p. 17)

In essence, in the process of Emscher park project between 1989 and 1999, IBA managing director Karl Ganser highlighted that the "landscape" would be "the focal point of the urban region deliberations" (Ganser; Siemer et al., 2010, p. 59). He added that "reconstructing landscape is by no means an isolated problem for old industrial areas. All Europe's major conurbations are happily building tomorrow's discussed industrial areas in their extensive suburban zones" (Ganser 1991, p. 15). Through this project, what has been firmly entrenched among German planners is "the approach of using landscape as a long-term and highly effective factor of regional change" (Kolkau 2002, p. 34). In short, *landscape* became

the central factor of the structural transformation and development of the Ruhr district. The German understanding of *large parks* grasped in urban regions is also demonstrated.

Against this background, the Duisburg-Nord Landscape Park planned and designed by Peter Latz and Partner has been analyzed continuously as among the most essential projects. It stands for a completely new category of parks (vgl. Godau et al., 2009, p. 65). In the 2004 lecture, Peter Latz provided few clarifications about the site presents of Duisburg-Nord Landscape Park (Latz 2004 unpublished lecture, quoted in Stilgenbauer 2005, p. 7). In this clarification, he offered his opinion on *large parks*. "The park is not a park in the common sense, not easy to survey, not clearly arranged, not recognizable as a whole. According to its situation amidst chaotic agglomerations and infrastructure lines, it appears as a torn figure with numerous different aspects" (Ibid.).

Establishing Connections with Urban Surroundings

In Peter Latz's planning and design, the analysis and establishment of interconnections between the park and urban surroundings are regarded as the first and decisive step. The working manner has been formulated by Peter Latz:

> "When we began to work on the design task, rather than first imagining a park, we examined what would be visible from the future 'park'. […] We used an analysis plan to depict a panorama with all the elements that could be seen from the area we were working on. From the opposite direction we recorded all of the elements within the landscape park that could be seen from the outside." (Latz 2008b, p. 349)

Peter Latz described a "panorama" with almost all valuable elements and connections between the interior and the exterior (Fig. 33) (Ibid.). Specifically, there are dark grey "areas in the landscape park orienting to the outside," "special places" containing landmarks in red as well as "horizon," to which the park's externally oriented areas relate," and "streets, which relate to the blast furnace plant" (Ibid.). Beside these, the rest blank spaces in the projections are evaluated to be "quite hidden in character and not visible from the outside" (Ibid.), and therefore unimportant for the further planning and design. For the interconnectivity, Peter Latz considered the essential factors in urban regions broadly: the horizon, transportation system for convenient access, line of sight, and local distinct landscape elements that adequately represent regional landscape image and cultural characteristics.

For the external-internal interconnections, among the most prominent and direct ways is to

build visual relations. In the park, old blast furnaces are marked clearly as both landmarks and linking elements, and their views are also drawn by Peter Latz (Fig. 34). Through the above analyses, certain key nodes that benefit to the interconnections are properly placed in a new structure of park.
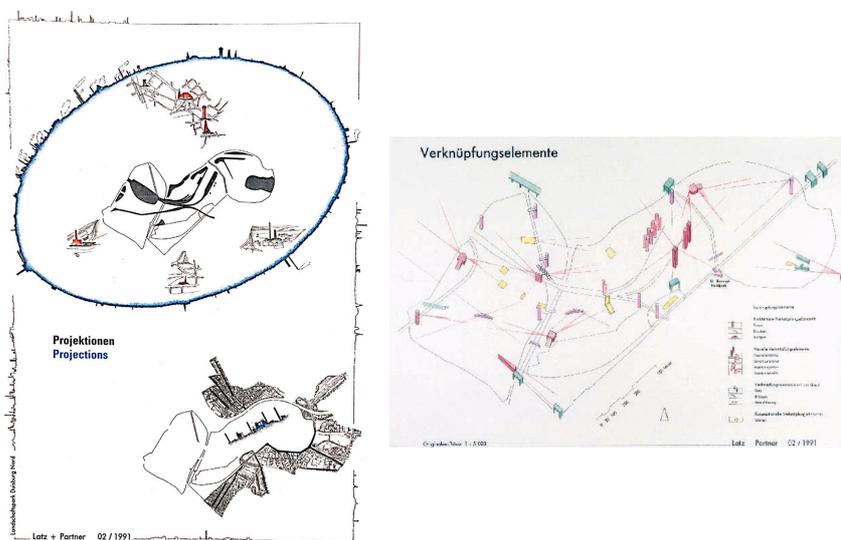
Fig. 33: The relationships between the park and its surroundings in the urban region (Weilacher 2008) (Left)

Fig. 34: Building visual relations between the park and surroundings (Ibid.) (Right)

Structuralistic Approach

Peter Latz's 'structuralistic' approach is reflected in Duisburg-Nord Landscape Park. In this project, he stated that it was the first time that they did not work on a conventional general plan, but strived to "depict the park as an abstract structure and to pinpoint subspaces that were to be developed following certain sets of rules: the railway park, the water park, the city promenades and so on" (Fig. 35) (Latz 2008b, p. 351). The categories as structural elements are "linked together visually, functionally, through ideas or symbolically, using the smallest possible interventions, special connecting elements, ramps, steps, terraces or gardens" (Weilacher 2008, p. 116). Based on the "overlay and connection of independent conceptual layers and structural elements" (Ibid.), a complex network of industrial structures become the distinct cultural landscape for the future (Fig. 36).

Natural Processes with Technology

The Duisburg-Nord Landscape Park displays Peter Latz's understanding of nature and its processes as well as the relationship between nature and technology. With the dynamic

processes of ecosystems revealed by increasing ecologists, "Latz + Partner's conception of natural systems reflects the shift" (Elissa Rosenberg 2007, p. 225). It is the shift from *equilibrium* to *nonequilibrium* paradigms that has been articulated in the third part of North American *Large Parks*. Using "artefacts as a symbol of nature," the natural processes supported by the technology is expected to be cultivated in the German parks. It is similar to Latz's explanation of the "water canal" in the Duisburg-Nord Landscape Park; it is an "artefact aiming to introduce natural processes in a devastated and perverted situation. These processes work according to the rules of ecology, but are initiated and sustained by technological means. Man uses this artefact as a symbol of nature, but is still responsible for the process. It is the most natural and at the same time the most artificial system" (quoted in Weilacher 2008, pp. 130-131). In the cultivation of natural processes, the German *large parks* are regarded as *eco-machines* for shaping self-organizing and resilient urban nature, which will be described in the similarities of two large-scale parks in Chapter 5 (see p. 110).

Fig. 35: An abstract structure, which is developed through "overlay and connection of independent conceptual layers and structural elements," such as "the railway park, the water park, the city promenades" (Weilacher 2008) (Left)

Fig. 36: A complex network of industrial structures becomes landscape (Ibid.) (Right)

As regards the inextricable relationship between nature and technology, Peter Latz once expressed the nature that is coherent on with the technology in the book "Syntax of Landscape", as follows:

"So technology and nature not as a contrasting pair, as in early Modernism, but technology and nature in accord. Here I am interested in a possible congruence within the ecological concept. This is nothing to do with the need for harmony; no, the technical idea is to try to integrate nature sequences as much as possible, and to let nature be nature. On the other hand, nature we create artificially must allow us to find an aesthetic language that is identical with the technical one. […] I am absolutely allergic to the idea that nature should reconquer something for itself. […] We have to

keep a hold on technology, and integrate it into our environment." (quoted in Weilacher 2008, pp. 128–129)

4.3.2 Riemer Park

The second project is Munich Riemer Park. The winning proposal of master plan comes from Paris Latitude Nord led by French landscape architect Gilles Vexlard. Through the 1995 international park design competition, the derelict 560-hectare Munich Airport land was turned into a new and modern city district of Munich, called *Messestadt Riem*. The urban project for site transformation could be materialized by means of blending business, residence, trade fair, infrastructure, and green open space (vgl. Landeshauptstadt München 1998, p. 4). Moreover, it effectively motivates the Munich urban development toward the east. The Riemer Park is not merely a *large park* project. It is "one of the City of Munich's biggest current urban development projects" (Zöch et al., 2005, p. 27).

Spatial Conception of "Drittellösung"

The spatial conception of Messestadt Riem is set up based on an essential principle of the whole area disposition (Fig. 38). It is defined as *Drittellösung* (Messestadt Riem München Competition 1995), which means "three parts solution" (Schegk et al., 2007, p. 84), in 1991. According to land use, it is explained in detail as "one-third of the area zoned residential, one-third allocated for industry or business development, and one-third for parks and open space" (Ibid.). The unique solution fully conforms to the leitmotif of Munich sustainable urban development, "Compact—Urban—Green" (Landeshauptstadt München 2005a, p. 16), based on the concept of "Munich Perspective" by the Munich City Council in 2008. In this regard, Lutz Hoffmann explained it in the essay "850 Years of Urban Development in Munich":

- "Compact": This refers to the use of "urban space sparingly by compactly and densely."

- "Urban": This refers to "a lively mix of residence, worksites, shopping and recreational venues."

- "Green": This refers to "an attractive array of open spaces and green areas to improve the natural environment and the recreational potential."

For the Riemer Park project, saving the construction of buildings and green open space at multiple scales, such as park, platz, courtyard, private garden, are highly mixed together for

diverse urban functions and social uses in Fig. 37. The blending with a reasonable density follows the functional principle of *kurzen Wege* (*short ways*), which means infrastructure and open spaces are accessible easily to dwellers (vgl. Landeshauptstadt München 2009). It also implies a basic understanding of Henri Lefèbvre's idea of "social production of space" that offers an insight into the formation of social space.

Fig. 37: The blending of buildings and green open space with a reasonable density, in terms of the leitmotif of "Compact－Urban－Green" (Landeshauptstadt München 2009)

From this perspective, differential social relationships reflect in the organization of diverse spaces. *Ein abgestuftes Freiraumsystem* (*a graded open space system*) is generally set up and developed (vgl. Landeshauptstadt München 1998). From the core area named *Willy-Brandt-Platz*, located in the south of the east-west axis *Willy-Brandt-Allee* (Fig. 39), to the southern open park, the system contains diverse spatial forms for two types of social organization: *Gemeinschaft* and *Gesellschaft* (*community* and *society*) (Ibid.). Specifically, they are classified as private garden for individuals and families; green areas between buildings serving for local neighborhood or groups (Fig. 40); platz, such as *Menschenrechte* for public life; *Willy-Brandt-Platz* for German urban society's mixed uses; and park as green open space, intensively connected with residential areas, available for urban residents and visitors.

Fig. 38: Concept plan of urban development in Messestadt Riem, according to an essential principle of "Drittellösung" (Landeshauptstadt München 2009) (Left)

Fig. 39: The aerial view of the core area named Willy-Brandt-Platz (Ibid.) (Above right)

Fig. 40: Green areas for local neighborhood or groups (photographed by the author) (Blow right)

Open Spatial Structure

Based on the principle of *Drittellösung*, the park's spatial structure is considered. According to the given assignment during the 1995 competition, the first thing for the construction of the park alone is to develop a landscape structure as its high identity, generally meeting ecological requirement in terms of climate and biotope network, providing an open space for the 41,000 residents, and integrating the fenced area of the old airport into the existing system of green corridors (vgl. Landeshauptstadt München 1995).
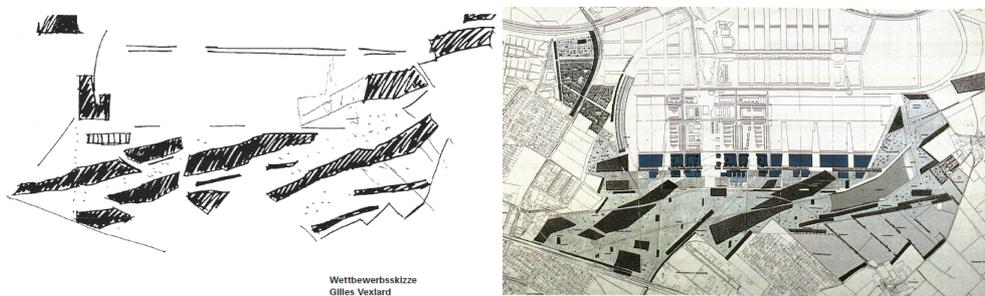
Fig. 41: Gilles Vexlard's conceptual sketch of spatial structure (Landeshauptstadt München 2009) (Left)

Fig. 42: Gilles Vexlard's master plan of Riemer Park in the 1995 competition (Landeshauptstadt München 1995) (Right)

On the one hand, the land structure embraces topography and local characteristics, specifically represented as Munich Gravel Plain during glacial period, parcels of land naturally divided into cultivated and woody land, and massive woods made up of oak-pine, and oak-hornbeam in this region. Combining these on-site landscape elements, Gilles Vexlard also added that "the power of the Munich landscape is the distance", quoted by Ingrid Schegk and Sabrina Wilk in "Landscpe Architecture in Germany Case Study: The Landscape Park in Riem" (2007). The distance means a perceived openness in landscape. Accordingly, he sketched the conceptual park structure in extensive linear forms (Fig. 41) to symbolize the Munich cultural landscape, that is, "agriculturally imprinted cultivated landscape of Munich's east" (Zöch et al., 2005, p. 27). Through a network of inclined routes, strips, and bands of native woods and shrubs extending to the horizon, the park is fully open to its environment, and links the overall Riem area to surrounding villages and Munich cultural landscape (Figs. 42 and 44). This scene is generally described as *ein Park ohne Grenzen* (*a park without borders*) (Landeshauptstadt München 2009). In conclusion, the open structure reflects the Munich landscape image, forms a dialog with surroundings, and

offers citizens the perception of openness and freedom (Fig. 43).

Fig. 43: Openness and freedom perceived by citizens (photographed by the author) (Left)

Fig. 44: Park's network of linear routes, and indigenous woods and shrubs extending to its surroundings (Zöch et al., 2005, p. 28) (Right)

On the other hand, the open structure takes airflows into consideration and assumes certain ecological function. It takes the prevailing wind directions throughout the whole site into consideration. At least 400-meter-wide fresh air corridor of the park have an effect. When lacking of air exchange in the weather condition, plenty of fresh air would be supplied through the air corridor, from the *Ebersberger* forest situated in the East towards the Munich City (vgl. Landeshauptstadt München 2009). The open structure of Riemer Park takes on spatial qualities of openness, freedom, and identity.

In this chapter, the German model of *strucutalistic parks* is presented as another manifestation of *large parks*. In the site transformation, the German *large parks* are closely related to former industrial sites with underlying and accumulated *information* that requires to be decoded, understood and handled, as well as related to their surroundings and even urban regions in the 'large' thinking. That is to say, not only do they handle the single derelict site per se, but also look at the whole region in a holistic approach. Using the contexturalistic-structuralistic approach, Peter Latz offers his own critical interpretations having reference to the meanings of architectural *structuralism* particularly in the Netherlands and the *minimal intervention* by Bernard Lassus and Lucius Burckhardt. In "a new and careful way", the urban landscape in *large parks* is considered critically and shaped by the unique *syntaxes—abstract structures*, "overlay and connection of independent conceptual layers and structural elements" (Latz 2008b, p. 353), by which diverse, free social spaces in everyday life would develop over time.

Connected to the previous chapter, one of the most pivotal differences reflected in two *large park* models is the German contextualization of Peter Latz opposite to the North American imagination of James Corner. For them, their interrelationships do not end here, instead they are more manifested in two aspects of similarities and differences. Therefore, the next

chapter arguing for relationships of two large-scale park models between North America and Germany is formed within the cross-cultural comparison.

5 Comparison of Large-scale Park Models between North America and Germany

Through the comparison between two advanced large-scale park models within the regional cultural concepts of *urban landscapes*, the revealed similarities and differences are presented in this chapter for the further reflection of Chinese *country parks*. Their similarities are deduced in accordance with the research question on how to view contemporary large-scale parks to adapt to changing conditions, in terms of urban spatial structure, society, and ecology. With *critical rationalism* approaches, two distinctive park models prioritize the understanding of landscape at the urban level over park; they are viewed as a strategy for site renewal and transformation in post-industrial society, and as *eco-machines* for natural process; they also handle the relationships with revised city and urban nature. Their differences are discussed first at the level of urban landscapes within two different theoretical schools of *landscape urbanism* and *landscape structuralism*, and the stated explicitly at the level of large-scale parks through questions raised by the author as well as the opposite responses.

5.1 Similarities

In general, both large-scale park models reflect the advancement in today's landscape architecture that "has enjoyed enormous growth and visibility over the past ten to fifteen years" (Corner 2014, p. 7). Its significant growth in both research and practices is indeed accompanied by the changes of urban spatial structure, social transition, and ecological challenge, and the increasing demands for the qualitative development of urban green open space. Accordingly, two kinds of large-scale parks are created and analyzed as specific urban landscape forms with unique cultural identities. By reviewing their explanations in previous chapters, seven points summarize their similarities.

- Critical Rationalism Approach

    The first remarkable aspect of their similarities is the critical research approach. As elaborated in the second chapter, contemporary *urban landscapes* are studied by two specific critical approaches: North American *critical thinking* proposed by James Corner and German *critical structuralism* interpreted by Peter Latz. They can be summarized into *critical rationalism* approaches based on Karl Popper's principle of "falsification" in scientific theories. The approach prompts a critical exploration of two large-scale park

models, compared with classic pastoral 19th century parks. In fact, they substantially embody a commonly critical attitude to deal with contemporary urban landscapes. Not only that, it largely provides a methodological guidance for the further reconsideration of Chinese urban landscape and its *country parks*.

• Primarily Urban Landscapes

The second similarity concerns the understanding of two large-scale parks. First, the parks involve an expanded scale. Owing to the dissolved urban spatial structure, and the growth of urbanity into landscape, parks extend into the whole urban regions accordingly. Second, despite "park" is as a keyword, two large-scale parks are primarily regarded as open, extensive, and connected landscape at the urban level, that is, urban landscapes. It is not limited to the concept of park. This transition illustrates that the landscape has commonly become the focal point of considering and planning urban regions. At the same time, the transition reversed the ideal interpretation of park from a pastoral perspective. No matter how large-scale parks are envisioned, they essentially exceed a harmonious image of painted landscapes. More creative conceptions could thereby shape a non-pastoral perspective. It mirrors the evolving park concept in the field of landscape architecture.

• Models with Cultural Identities

The third similarity implies seeking intellectually for park identity. Compared with conventional parks, two large-scale parks are intellectual constructs in specific cultural contexts. Different park models are, thus, developed on its own way. Considering the transition of society and space in urban reality, present-day large-scale parks are impossible to be positioned in a purely ideal and romantic dimension. Instead, they require rational and critical analyses toward different dimensions, such as North American *large parks* with the organic identity, or German *large parks* with the structural identity. The issue on how their cultural identity is established will be discussed in the section of differences. The identity as an inseparable element of park models encourages Chinese *country parks* to explore and establish gradually its own characteristic. Apparently, this step is possibly consistent with the *country park* approach that will also be reflected. The coherence is similar to that between approach and identity in North American and German models. The explicit park identity is beneficial to its conceptual approach.

• As an Instrument for Site Transformation in Post-Industrial Society

Under the influence of the structural change toward post-industrial society, numerous abandoned sites appeared in shrinking cites; the transformation of derelict industrial

sites becomes the theme of large-scale park development in most cases. It accounts for the acknowledgment of the significance of landscape in urban regeneration and renewal. Large-scale parks are naturally regarded as an instrument that enables to realize site renewal and redevelopment in a sustainable way. It indicates that the research on two large-scale park models could offer clues for the Chinese *country parks* in the transition of Chinese society, which has been discussed in the part of changing city as an urban phenomenon (see pp. 24–26).

- As Eco-machines for Processes

Eco-machines, which others call as *landscape machines* or *living machines* (vgl. Roncken et al., 2011), are used to account for both large-scale park models from the perspective of processes. The concept will be explained here because it is not mentioned in previous chapters. This study's views are close to Dutch landscape architect Paul A. Roncken's interpretation:

> *Eco-machines* are "made of landscape features and are driven by landscape processes, and in the meantime they produce a multitude of food products, natural biotopes, clean air, clean soils and so on." The priority of *eco-machines* is "not only to protect and understand nature but also to feed those processes that sustain nature's resilience and thereby harvest all the by-products and spin-off effects that we need as human beings." (Roncken et al., 2011, p. 72)

In essence, *eco-machines* aim not to calculate specific inputs and outputs but to represent a relationship between two large-scale parks and ecology. Analogous to machines, both large-scale parks perform in a way of ecological processes that is created and maintained through technologies, when technologies and nature are assumed to be in accord. According to ecological rules, the natural processes in large-scale parks are not only for preserving natural elements and resources, restoring and improving ecological environment, but also for supporting the ecological *resilience* embracing forces of *disturbance*. In this sense, they are *eco-machines*, rather than "environmental cleaning machines" (Meyer 2008, p. 6).

- Relationship with Revised City

The relationship between park and city is increasingly intimate. Two large-scale parks are created in urban regions, generally with the changing nature of revised city on aspects of the dissolution of dominating urban organizational form and the transition toward post-industrial society. The changing urban environment, and subsequently the

critical reconstruction of urban landscapes lay an essential foundation for large-scale park concept development, which has been explored in the second chapter.

Moreover, their close relationship represents "how the city is to be view" (Cranz 1982, p. 240). To a certain extent, certain visions of the city determine the large-scale park concepts. In the third chapter, the renewed urbanism, particularly *landscape urbanism* program in North America, was discussed. That is a kind of conceptual city model in which city is analogous to an organism containing fluid, substance, and energy, and having relationships. The organic insight into city is connected to the concept of *large parks* with organic approach. In a similar way, a new urban model of *in-between-city* in Germany was conceptualized by Thomas Sieverts. What has been explained in Chapter 2 is *a city-landscape continuum* that suggests the city is neither an entity nor an organism from the viewpoint of its immanent 'difference' and 'diversity,' based on the heterogeneity of city life. It leads the German concept of *large park* space with qualitative characteristics. In short, both visions of city establish relationships with large-scale parks.

• Relationship with Urban Nature

The shift of relationship between nature and city makes nature closely related to the large-scale parks. The change has been discovered in both North American and German academic circles. As part of the emerging idea of urbanism, as discussed in Chapter 3, Charles Waldheim stated that ecological forces and flows are regarded as part of the city, thereby arguing for the integration of nature and city in his renewed urbanism model. Similarly, Peter Latz also argued that the irreconcilable contrast between city, nature, and technology should be removed to safeguard urban landscapes as basic life resources now and in the future (vgl. Latz 2008b, p. 335). Although there are different cultural interpretations and images of nature in two developed regions, the consensus could be that nature is no longer wild in contemporary urban conditions. Nature is reclaimed and regenerated by means of technologies; it is shaped by people in urban life. In short, it is the urban nature that is inextricably bound up with two large-scale parks, which planners and designers need to consider and cope with.

In a broad sense, even though it does not exist the purely wild nature in contemporary urban areas, the understanding of urban wildness is still important and reflected in two large-scale park planning and design. Particularly when dynamic processes of ecosystems are revealed, urban wildness tends to cultivate a self-organization of resilient nature through technologies and, at the same time, support more interactions between nature and urban in a distinctive organized way. Hence, the urban wildness is intentionally integrated into two large-scale parks. For Peter Latz, the urban wildness

means to allow the coincidence of nature, whereas, for James Corner, it symbolizes the living ecosystem expanding to the urban field. Both of them demonstrate the demand for the urban wildness.

5.2 Differences

Compared with two large-scale parks in Germany and North America, their striking differences are explicated in this section and concluded in Table. 4. Herein, ideas of German *large parks* derive from Peter Latz within the scope of *landscape structuralism* school of thought, whereas those of North America are derived from James Corner belonging to *landscape urbanism* school of thought.

In the second chapter, the reconstructed ideas of contemporary *urban landscapes* in North America and Germany have been analyzed. Three vital aspects, namely, landscape understanding; landscape and ecology; and landscape and urban life are primarily discerned, before making a clear comparison of the two large-scale parks. It demonstrates the research logic of comparing urban landscapes at first and then large-scale parks.

5.2.1 Comparison at the Level of Urban Landscapes in Two Different Schools

Landscape Understanding: Coherent vs. Creative

Through the theoretical and practical analyses of two large-scale parks, the landscape as the central point has been acknowledged in developed regions. This cognition for German landscape architecture is probably manifested in the projecting of *large parks*, primarily beginning with Duisburg-Nord Landscape Park. Along the thread of German *cultural landscape*, a coherent and contiguous understanding of landscape is fostered gradually.

The coherent German landscape understanding may originate from the reasonable reference of the long-standing site *information*, that is, objective existence in urban regions. On the specific site, complex and describable *information* is likely to be selectively introduced into German *large parks*, through relatively stable structure. In other words, the spatial structure could be analyzed subjectively, conceived and established by having reference to physical geographical site, such as regional texture with inseparable landscape elements bearing unique sociocultural characteristics. The site-specific *information* would become a powerful support for further conception and expression. For planners and designers, the process of reference is ongoing "decision-making processes" (Latz 2008b, p. 333), which has been mentioned in the part of German *large parks*. Professionals require to find and discern "what force the existing objects already have, what density of information they already

possess and what density of information first has to be introduced into the project", quoted in Udo Weilacher's 1996 book "Between Landscape Architecture and Land Art". In the following part, it is also concluded as German *large parks* relying on *information*.

In conclusion, the German landscape from the 'structuralistic' perspective is grasped as a spatial structure that becomes the immanent core of landscape. The idea of relying heavily on site-specific morphology and elements may be closely linked with the recognition of German *cultural landscape* as physical object influenced by the geographic idea of landscape.

By contrast, the understanding of the North American landscape architecture is driven by great ambitions of landscape shaping urban space as well as a strong sense of change, when potentially creative thinking functions. Consequently, certain conventional ideas are reviewed critically and replaced by emerging ideas. The situation is analogous to the evolutionary process of moving forward in negation. Against this cultural background, as explained in the third chapter, North American landscape is regarded as "verb," as "process or activity" (Corner 1999, p. 4). It emphasizes "the effects of constructed landscape in time;" "how it works and what it does" (Ibid.).

Through the comparison, the landscape between German and North America is ultimately understood in a coherent way versus a creative way. There are two distinct ways of treating landscape may be in keeping with the elements on which large-scale parks intend to rely. They also constitute the second question of comparing two large-scale parks (see p. 115).

- German landscape understanding in a coherent way, associated with *large parks* relying on *information*

- North American landscape understanding in a creative way, associated with *large parks* relying on *imagination*

Landscape and Ecology: Representation vs. Metaphor

Today, the integration of construed nature in cultures with contemporary cities and landscapes is important. In fact, it is the cultural image of nature exists potentially in the field of landscape architecture. Learning nature has derived multiple ecological ideas in different cultures and at different times, through professionals' ongoing interpretations of nature. Undoubtedly, in this combination, the attitude toward German ecology tends to be the artistic interpretation and representation of nature. However, in present-day North American academe, ecology is first considered as a *metaphor* for city dominated by landscape. Together with landscape, ecology is concluded as an "agent of creativity" based

on "highly interactive processes and relationships" (Corner 1997, p. 104).

For German landscape, from Peter Latz's point of view, nature and culture are considered as a "continuum" (Latz 2008b, p. 333), instead of an opposite relationship. The understanding of nature requires to be placed in a unique cultural condition that may change as society:

> "Landscape architectural design always—whether consciously or not—deals with society's position towards nature. Thus, it makes reference to an inherent paradigm that has guided landscape architecture for centuries. Today, it no longer suffices to consider nature in isolation, as an antipode to cultural creation. If survival on earth is to be safeguarded for the future, technical and natural phenomena, culture and nature must be comprehended as a unit, a continuum." (Ibid.)

Peter Latz considered, in German post-industrial society, "newly emerging open spaces within urban contexts, such as city parks and gardens were expected to symbolize nature and landscape. […] People can use artefacts (technological structures or elements) as symbols of nature and life in nature" (Ibid.).

In the 1990s analyses of contemporary North American urban landscape, the *metaphor*, particularly in an ecological sense, has become its essential orientation. This *metaphor* brings about a specific set of ecological ideas as distinct spatial generators, which impel the redevelopment of large-scale landscape architecture, to a certain extent. It makes "ecology as describing not a remote 'nature', but more integrative 'soft system'—fluid, pliant, adaptive fields that are responsive and evolving" (Corner 2014, p. 297). The understanding of urban living surfaces has played an important role in the planning and design of large-scale urban projects. Ecology itself becomes "an extremely useful lens through which to analyze and project alternative urban futures" (Corner 2006, p. 29).

Landscape and Life: Diversity vs. Unpredictability

German landscape places emphasis on the diversity of social life that becomes the foundation of generating diverse urban space. Landscape is regarded as an urban green open space, guaranteeing a free and diverse urban life.

In contrast, today's North American landscape may absorb more unpredictable factors or unpredictability in urban life into its concept of landscape. This shift marks a deterministic inference in *large park* concept as almost having no effect. As revealed in the third part, the origin of unpredictability for James Corner comes from life. He believed life by itself "as both a specific and autonomous system of networks, forces, combinations, unfoldings,

events, and transformations" (Corner 1997, p. 104). The comprehension of life implicates a creativity for urban landscape. Hence, landscape as the conditions is set up for an uncertain life to unfold and evolve (Corner 2005).

5.2.2 Comparison at the Level of Large-scale Parks in Two Different Schools

In this section, discrepancies between *large parks* in North America and Germany are represented through eight diverse aspects. The aspects show conflicting answers in the face of several in-depth questions pertinent to two models:

What is the cultural identity of each park paradigm?
—The structural identity vs. The organic identity

What elements are relied on for their conceptions at the beginning of thinking?
—Relying on *information* vs. Relying on *imagination*

What kinds of techniques are employed to conduct their conceptions?
—Objective representation technique vs. *Imaging techniques*

What are their most important contents in large-scale park planning and design?
—Shaping structural space vs. Establishing fluid, adaptive field

What are the aims of developing spaces in two large-scale parks?
—Spatial qualities vs. Spatial *performance*

How are natural processes in two large-scale parks regarded?
—Cultivated process of nature vs. Productive process of nature

What kinds of elements are conceived in large-scale park planning and design?
—Site-specific elements vs. *Non-site* elements

How is a series of qualitative characteristics about large-scale park models interpreted?
—Characteristics of German model vs. Those of North American model

Structuralistic Park Paradigm vs. Organic Park Paradigm

As consistently reiterated, two distinctive models as park paradigm shifting are elicited in the research. The German *large park* serves as the *structuralistic park* paradigm, whereas the North American one, as the organic park paradigm. Two models contribute to the contemporary development of park cultural identities. In the explanation of similarity, it is explicit that two large-scale parks need to set up their own cultural identity in the intellectual

thinking.

The organic identity is based on ecosystem dynamics, deriving from newly emerging ecological ideas and principles of ecosystems transferred into North American *large park* concepts, with the distance from sophisticated science of a balance of nature in the critical way. It is certainly under the influence of the disciplinary framework of *landscape urbanism* with the organic approach. It particularly represents the synthesis of landscape, ecology and engineering. The understanding of organic reveals North American landscape architects' belief that North American *large parks* as organic infrastructure constructed for enhancing ecological functionality of living urban surface. The functional understanding of nature essentially directs North American *large parks* toward the organic model.

The structural identity is based on Peter Latz's unique design philosophy of "decoding," understanding and re-interpretation, and "new syntax of landscape" (Latz 2008b, p. 333). "The landscape of the park is a rational construct whose layers of information contained in its structure were preserved and transformed" (Latz 2013b, p. 104). The "structure" is considered to be indispensable, owing to its significance valued by Peter Latz. He even described it as "robust" and "fascinating" (Ibid.). The understanding of structural implies the derelict industrial land is likely to be rationally reorganized and transformed based on inherent material and spatial connections, without destroying features on the specific site. It has affected a generation of German landscape architects actively.

Relying on Information vs. Relying on Imagination

In the planning and design of two large-scale parks, there are completely different ways on which Peter Latz and James Corner rely. Peter Latz leans on *information* to help him analyze or decode the physical site and its context. The concept of *information* aligns with the coherent landscape understanding. In contrast, James Corner is dependent on his idea of "imagination," displaying a "eidetic scope of landscape creativity" to primarily conceive of sites (Corner 1999, p. 153). The two aspects here are viewed as distinct starting points of thinking.

In Peter Latz's thinking of 'structuralistic' approach, relying on accumulated *information* in the history is fundamental particularly in his idea of cultural contextualization. As exploring the *palimpsest* of the site, the designed site is subsequently infused with designer's own interpretations for shaping spatial forms and establishing spatial connections. Peter Latz stated that the design process is likely to be understood as an "invention" of *informational layers* that overlap with existing systems, before designers think of shape or expression at all (vgl. Latz 2008b). It is difficult to envision Peter Latz's analysis and further conception of German *large parks* without the basic *information* in the external reality.

However, *imagination* in the subjective world is another starting point of thinking in North American *large park* planning and design. *Imagination* is consistent with the creative landscape understanding. As revealed in the North American *large park* chapter, influenced profoundly by J. B. Jackson's innovative understanding of North American landscape and postmodern cognition of space, James Corner's *cultural imagination* is established as the cultural embedding. He asserted that *imagination* is "a power of consciousness that transcends visualization" (Corner 1999, p. 167). It represents an "eidetic and subjective way" (Ibid.).

Objective Representation Technique vs. Imaging Techniques

Large-scale parks call for their own representational techniques to realize the conceptions. Naturally, these techniques are Peter Latz's objective representation and James Corner's "imaging techniques" (Ibid.). To a large extent, the two modes of representation are pertinent to the described *information* in opposition to *imagination*.

Relying on *information*, Peter Latz shape the structural space purposely through objective representation. This technique implies that physically objective existence plays a fundamental role in the subsequent German *large park* conception. In essence, the objective representation is an interaction between objects and subjects, that is, between landscape and planners or designers. The process of representation is known as objectifying subjects or objectification. In fact, the technique does not certainly mean the emergence of uniformly conceptualized results because, with more or less individual creativity, selecting and handling a variety of visible and invisible *information* are quite different from Peter Latz's point of view. "We select some information from the surroundings and make an idea in our head. Each person has another method to combine the information. There are different information layers, and you may understand only one or two, but somebody else may understand 50" (quoted by Arthur in 2004, p. 48). Perhaps, it is not the problem about the objective representation. On the contrary, the active understanding of objects in one's mind is the heart of the matter.

However, James Corner affirmed the objective representation has something wrong. His consideration of representation seems to be radical, particularly discovering the faint effect of creativity in the landscape architecture. Given this, he criticizes the objective representation without fully producing an active role, and thus rejects to continue to employ it in the North American *large park* conception. Meanwhile, relying on *imagination*, he highlighted that representation should be closely pertinent to "a mental conception" (Corner 1999) and more intended to improve and create diverse forms of representational techniques. In his mind, it is useful to deploy *imaging techniques* of conceptualization, such as

"mapping, planning, diagramming, and sectioning" that liberates the designer and planner effectively from representation (Corner 1999, p. 164).

Shaping Structural Space vs. Establishing Fluid, Adaptive Field

Constructing either space or field is the central point of two large-scale park conceptions. Shaping structural space is among the most important contents in the German *large park,* whereas establishing fluid and adaptive field is equally a critical part in the North American *large park.*

In German landscape architecture, with the *spatial turn*, the reflection and emphasis on the concept of *space* has been elucidated in the second chapter by Henri Lefèbvre's 1974 inference of "social production of space." The space is considered as a social construct, which is "produced and reproduced through human activity" (Lefèbvre 1991, p. 64). For Peter Latz, German *large parks* as urban spaces are prepared for social appropriation in everyday life (vgl. Latz 2012, p. 2). These insights lead to the formation and development of specific and differentiated spaces and spatial forms. The shaping of space is integrated with Peter Latz's landscape much more "as a spatial structure of informational layers shaped by people that develops permanently and dynamically" (Weilacher 2008, p. 170). Hence, shaping the structural space becomes central in German *large parks*.

It is apparent that North American *large parks* intend by no means to shape space or spatial material form. They commit themselves to set up "fluid, pliant fields" that are able to "absorb, transform, and exchange information with their surroundings" (Corner 2014, p. 289). The "fields" are equivalent to established *complex systems* discussed in the third chapter. They are wide and connective networks in which more attention has been paid to "the interrelationships between things in space, as well as effects produced through such dynamic interactions" than "the solely compositional arrangements of objects and surfaces" (Corner 2002, p. 227). Ultimately, the fluid field of North American *large parks* is constructed for adapting to unpredictable changes and desires as well as for "new forms and combinations of life to emerge" (Corner 2001, p. 58).

Spatial Qualities vs. Spatial Performance

Under the premise of shaping space in opposition to establishing field, German *large parks* develop their spatial qualities further through the structure, whereas North American *large parks* produce their spatial efficacy or effectiveness, that is, *performance*, through the functioning framework or *matrix*.

Peter Latz aspired to "qualitatively develop space in all its facets and dimensions" (Latz

2008b, p. 333). His emphasis on spatial qualities of German *large parks* may be still intimately associated with Henri Lefèbvre's analysis on urban landscape and the 'difference,' which has been explained in the second chapter. Henri Lefèbvre's significant insight is that the European urban landscape should be defined at the "specifically urban level," compared with levels of superstructure and infrastructure (Lefèbvre 2003, p. 80). By cognizing the three levels, German *large parks* maintain specific urban space, in which the diverse and free urban life and natural process have a coincidence, whereas North American *large parks* as the organic infrastructure are grasped through functions and efficacy. Thereby, the spatial qualities are developed by concrete spatial forms of urban life and urban nature for enhancing spatial characteristic. In contrast, the infrastructural functions more connected to ecological measurements and technologies are not associated with the formation of spatial features, although they play a role through ecologically spatial patterns, such as *pathways*, *corridors*, *edges*, *patches*, and *matrices*, and their relationships.

Essentially, the organic functions in North American *large parks* concentrate on the "formative effects of landscape in time" (Corner 1999, p. 4), that is, the landscape *performance* certainly connected to the process, which has been expounded in the third chapter. The "formative" refers to the ecologically spatial patterns, compared with the specific characteristic forms in the German *large park*. For North America, its significance lies less in these known conceptual patterns than producing the effectiveness via dynamic interactions of patterns over time. The effectiveness reflects the key issue with which North American landscape architects are concerned: how *large parks* work. In view of the reason for supporting the spatial *performance* alternative to qualities, James Corner advocated that the exclusive emphasis on the formal and visual qualities of landscape be criticized, because the priority for those alone may even turn the landscape into a "dead event" (Ibid.). In this sense, the North American *large park* spatial *performance* prioritizes over its spatial qualities and forms.

Cultivated Process of Nature vs. Productive Process of Nature

As admitting dynamic processes in the *non-equilibrium* paradigm of ecosystems, both large-scale park models involve the understanding of process relevant to the nature. However, there is a great divergence between them.

As regards German *large parks*, the cultivated process of nature searches for a balance between the "untouched" and the "built" (Latz 2003, p. 80). Under the premise of accepting a fragmented world, Peter Latz leaves room for the coincidence of nature in the web of the layout (Ibid.). Biotopes of nature experience autonomous growth, maturity, and even decay in German *large parks*. However, the cultivated process is not merely natural process

"initiated and sustained" by technologies that works depending on the rules of ecology (Latz 2006). It is also pertinent to artistic representation of nature by artifacts as a symbol. It apparently embodies the German understanding of landscape and ecology in the above discussion.

In fact, the cultivated process does not try to generate or create something, instead of keeping and recycling. On the contrary, North American *large parks* aim to produce the efficacy of nature, deriving from the functional understanding of nature and focusing on the park *performance*. The productive process means in a large part the constructed urban nature drives the development of North American *large parks* in circumstances and makes them effective by *seeding*, *staging*, and *ecological succession* (e.g., James Corner's Fresh Kills Park project). Ultimately, an evolving, open, *resilient* system for the *large park* takes shape, which is capable of adaption in response to changing needs and desires.

Site-Specific Elements vs. Non-site Elements

Concerning German *large parks*, site-specific meaningful elements constitute an open and a multilayered landscape structure in planning and design. They are extracted from the sites in concrete urban conditions, and regarded as *structural elements* by Peter Latz. As revealed by Udo Weilacher in the second chapter, these elements involve topographic and hydrological morphology, transportation systems, building structures, open space systems, and additional relevant networks. In essence, the site-specific elements are important for the spatial structure and form, on account of the coherent landscape understanding as well as relying on *information* for analysis and design.

As for North American *large parks*, *non-site* elements as conceptual diagrams comprise an open-ended multilayered framework or *matrix*. These diagrams are mostly related to ecologically spatial patterns, which are transferred into conceptual elements in planning and design. In fact, the comprehension of *non-site* elements may be influenced by Robert Smithson. He describes the *non-site* as "an abstraction of a physical geographical site that can come to represent the site but without the need to resemble it" (Smithson 1868; Wall et al., 2015, p. 193). His idea becomes the reasonable argument for North American *large park non-site* elements of conceptual diagrams from the landscape-ecological perspective.

Characteristics of German Model vs. Those of North American Model

From the qualitative perspective, two large-scale park models have been analyzed through the five characteristics: complexity, diversity, sustainability, appropriation, and identity. Each characteristic has its own interpretations, which have been expounded separately in

Chapters 3 and 4, and are now concluded in the Table. 4.

The complexity for the German model refers to the design process in which there is an intersection of existence in material world and imagination in designer's mind. The complex design process is hardly describable one by one, as it generally involves the selection, extraction, and re-interpretation of a range of *information* by individual's thinking. It is difficult to explain which *information* or elements influence upon designer's insight for his further conception. The intricate connections between *information* and the new structure of park may be represented according to a designer's understanding of the site. In contrast, influenced by system theories and ecology, the complexity for the North American model is analyzed in a straightforward way. Its *large park* complexity is presented through its adaptive social and ecological processes with the unpredictability.

The diversity in German model comes from diverse spatial form of society and life, whereas in North American model, it is defined as *heterogeneity* from the landscape-ecological perspective, which derives from the research on structure, function, and change in a *heterogeneous* land area "composed of a cluster of interacting ecosystems" made by landscape ecologists Richard T. T. Forman and Michel Godron (Forman 1987).

The North American sustainability is likewise explained in the landscape-ecological meaning. It is marked to be *resilience* developed as among the essential properties in C. S. Holling's 1992 dynamic model. In contrast, the German one presents a kind of continuity; this means a coherent development of space in terms of Peter Latz's three layers: interpreted history and memory, social appropriation, and represented nature. In addition, the German sustainability is also related to the recycling utilization of post-industrial remnants based on the principle of keeping almost everything on the local site.

The appropriation in German model still follows Peter Latz's urban spaces prepared for diverse social appropriation to satisfy with different willingness and demands of individuals, groups, communities, and society for different uses in the forms of activities, programs, and events. It reflects the above diversity on aspect of society. However, the appropriation in North American model calls for the social self-organization, emphasizing programmatic indeterminacy. The appropriation of space is adapted to specific situations and demands that may emerge in the process of diverse, creative, and uncertain urban daily life. The great difference between them fully indicates the opposite part of landscape and life: diversity versus unpredictability.

The last but important level is the German structural identity that differs from the North American organic one. It has been discussed in the first question.

Table 4: Comparison between German structuralistic parks and North American process-orientated large parks from perspectives of Peter Latz and James Corner, based on three-faceted comparison of urban landscapes in two theoretical schools of landscape structualism and landscape urbanism (made by the author)

Differences	Germany	North America
1 At the Level of Contemporary Urban Landscapes	**Landscape Structuralism**	**Landscape Urbanism**
Landscape understanding	—In a coherent way —Landscape as a spatial structure, the relatively stable structure becoming the immanent core of landscape	—In a creative way —Landscape as "process or activity" (Corner 1999, p. 4)
Landscape and ecology	—Ecology as the artistic interpretation and representation of nature	—Ecology as a metaphor, and ecology and landscape as "agents of creativity" (Corner 1997, p. 81)
Landscape and life	—Life's diversity: Landscape as urban green open space guaranteeing free and diverse urban life	—Life's unpredictability: Landscape as the conditions set up for uncertain life to unfold and evolve (vgl. Corner 2005)
2 At the Level of Large-scale Parks	**Peter Latz's** **Structuralistic Parks**	**James Corner's** **Process-orientated Large Parks**
Structuralistic park paradigm vs. Organic park paradigm	—The structural identity	—The organic identity
Relying on information vs. Relying on imagination	—To analyze or decode the physical site and its context, aligning with the coherent landscape understanding in cultural contextualization	—An "eidetic scope of landscape creativity" to primarily conceive of sites in James Corner's "cultural imagination" (Corner 1999, p. 153)
Representation technique vs. Imaging techniques	—Interaction between objects and subjects, a process of objectification	—"A mental conception" (Ibid.), for improving and creating diverse forms of representational techniques
Structual space vs. Fluid, adaptive field	—In the wake of the *spatial turn*, shaping urban spaces prepared for social appropriation in everyday life (vgl. Latz 2012, p. 2)	—Establishing fluid adaptive field, able to "absorb, transform, and exchange information with their surroundings" (Corner 2014, p. 289)

Spatial qualities vs. Spatial performance	—"Qualitatively develop space in all its facets and dimensions" (Latz 2008b, p. 333)	—The "formative effects of landscape in time" (Corner 1999, p. 4)
	Spatial qualities developed by concrete spatial forms of urban life and urban nature for enhancing spatial characteristic	Spatial performance produced by dynamic interactions of ecologically spatial patterns over time
Cultivated process of nature vs. Productive process of nature	—Embracing not merely natural process "initiated and sustained" by technologies (Latz 2006), but also artistic representation of nature by artifacts as a symbol	—Producing the effectiveness of nature
Site-Specific elements vs. Non-site elements	—Site-specific, meaningful structural elements as existing reference constituting the multilayered open, structure:	—Non-site elements as conceptual diagrams constituting the multilayered, open-ended landscape *matrix*: Spatial patterns in landscape-ecological sense, such as *patch*, *edge*, *corridor*, and so on, as conceptual elements
	Topographic, hydrological morphology, water systems, transportation systems, building structures, open space systems, and additional relevant networks	
Characteristics of German models vs. Those of North American models	—Complexity: Complex design process, the intersection of existence and imagination	—Complexity: Adaptive social and ecological processes with the unpredictability
	—Diversity: Spatial diversity and difference	—Diversity: *heterogeneity* in the landscape-ecological meaning
	—Sustainability: the coherent development of space in terms of history, memory, social appropriation and represented nature; the recycling utilization of post-industrial remnants	—Sustainability: *resilience* in the landscape-ecological meaning
	—Appropriation: Urban spaces prepared for diverse social appropriation (vgl. Latz 2012, p. 2)	—Appropriation: Social self-organization emphasizing programmatic indeterminacy
	—Identity: Structural	—Identity: Organic

6 Rethinking Contemporary Chinese Urban Landscape and Country Parks

In this chapter, the analytical results of two models are ultimately transferred to China at levels of landscape architectural park models and urbanistic theoretical frameworks. The current planned and realized Chinese urban landscapes of *country parks* are reflected in terms of their similarities and differences to these two models. The results indicate that international park models can influence upon various sociocultural, ecological, and aesthetic developments. Given the actual situation, there are four concrete challenges of Chinese urban landscape that need to be managed, including rejection of *city beautiful* landscape concept; construction of *Shan-shui* structure based on Chinese *Shan-shui* culture; recognition of landscape as an essential role in urban renewal and development; and consideration of landscape from the ecological perspective. Combined with these challenges as well as the comparative results between North America and Germany, the Chinese urban landscape is critically grasped in terms of three points of rethinking: landscape understanding, landscape and ecology, and landscape and life.

6.1 Formulation of and Reflection on Chinese Urban Landscape

In reference to the critical reconstruction of contemporary urban landscapes in North America and Germany, both of them strived to establish their understanding suitable for contemporary urban context. For China, contemporary urban landscape is presented within evolving concepts of city, and is reflected in terms of landscape understanding, landscape and ecology, and landscape and life. They are the same three levels through which North American and German urban landscapes have been compared in Chapter 5.

In this study, Beijing city in the North of China is chosen as the focus of analysis to rethink contemporary Chinese city, urban landscape, and *country parks*. As discussed in the second chapter, compared with other Chinese cities, the massive construction of *country parks* has happened in Beijing, and there are much more demands for a critical analysis in terms of theories and practice. Hence, conceptual models of Beijing city and its urban landscape conceptions are articulated in this work accordingly.

6.1.1 Urban Landscape in Evolving Concepts of City

The comprehension of Chinese urban landscape is bound up with multiple concepts of

Beijing city. In this part, there are four principal concepts of Beijing city: *megalopolis*, *Shan-shui city*, *global city*, and *sponge city*. These concepts are presented from different perspectives in terms of the nature of urban spatial structure, traditional culture, identity, and landscape ecology in Table. 5. Within these concepts of city, different qualities of urban landscapes are unfolded over time.

Megalopolis

From David Grahame Shane's viewpoint in 2011, since the 1990s, Beijing city has been viewed as "Megalopolis," a relatively simple urban system that has become the dominant form for city sprawl (vgl. Shane 2011, p. 157). The term was first used in Patrick Geddes' "Cities in Evolution" in 1915, and then coined by French geographer Jean Gottmann in 1961 for describing a city that was infinitely expandable as long as energy, infrastructure, and cheap land are present (Ibid.). It reflects the continuously sprawling nature of city in a way of mechanical growth. For that, American urban planner Kevin Lynch believed this urban model is considered the "city as a machine" in 1981.

① **Urban Master Plan for the Megalopolis**

Identified as the *megalopolis*, Beijing city has its own way of urban expansion. When the city was founded, it was "a dense network of perpendicular streets, regulated by the Central Axis, outlining an ordered checkerboard of rectangular blocks" (Greco et al., 2008, p. 119). At the regional level, with a rapid increase in population and a great number of investments into new land of suburban areas, the urbanized city has a vast scale jump, and the suburban tracts spread out visibly from the old urban center, the Forbidden City. At the level of global system, the *megalopolis* is shaped with the massive urban infrastructural construction as a result of the launching of "Open Door Policy" in the 1980s and the "sudden opening of the global market" (Ibid.).

Consequently, the new urban spatial structure is surrounded by a planned concentric "ring-and-radial pattern" (Shane 2011, p. 96). With the spatial growth, the planned and constructive number of ring roads has increased accordingly since the late 1980s (Fig. 1). Until 2003, the transportation infrastructure of five-ring-system had largely dominated Beijing's spatial structure and its development.

With the rapid urban expansion, Chinese urban planners attempted to control the city and urban processes completely through master planning. Since the late 1990s, two rounds of regulating plan have been crafted in 1992 and 2004. In the 1992–2010 Regulating Plan, as shown in Fig. 45, the control of Beijing city was expected to realize through two approaches: conserving the historic center of inner city on one hand, and relieving the accumulating urban stress through effectively guiding investments in broader urban areas, on the other

hand.
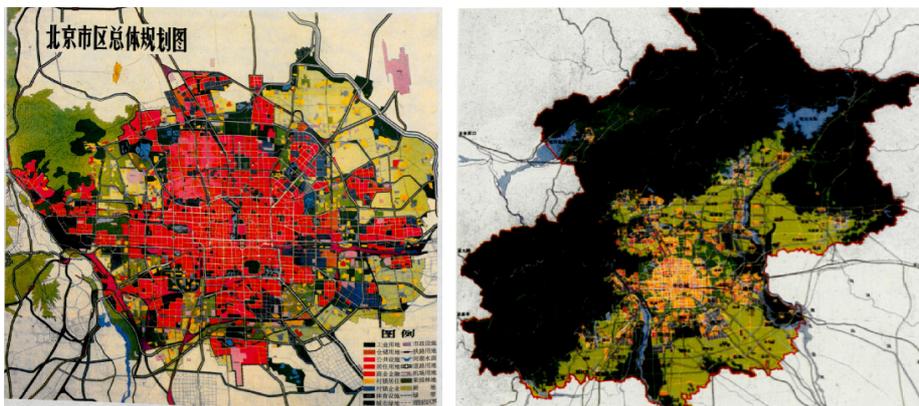
Fig. 45: The Regulating Plan of 1992-2010 (Dong, 2006) (Left)

Fig. 46: The new Regulating Plan of 2004-2020 (Beijing People's Government Master Plan 2004) (Right)

As a result, with more investments in suburban areas at that time, the tendency of sprawling expansion was, however, increasingly evident. According to Claudio Greco et al., "investments in the city's new areas have created a decisive stimulus for an extraordinary expansion of the urban fabric" (Greco et al., 2008, p. 123). The corresponding changes are no more than the wider distribution of *ring-and-radial pattern*, and a seriously binary opposition between the urban and the rural. Apart from the conservation of urban historic landscape, the planning and construction of urban landscape have been concentrated on the inner city. In contrast, the development of landscape and urban infrastructure in the countryside is largely ignored. The urban landscape influenced by the urban-rural opposition will be explained in the following part. In conclusion, although more effort has been exerted to master planning, the simplistic spatial structure is still uncoordinated, with the increasingly urban spatial growth. It is also difficult to stimulate the continuous development of urban landscape in the whole region.
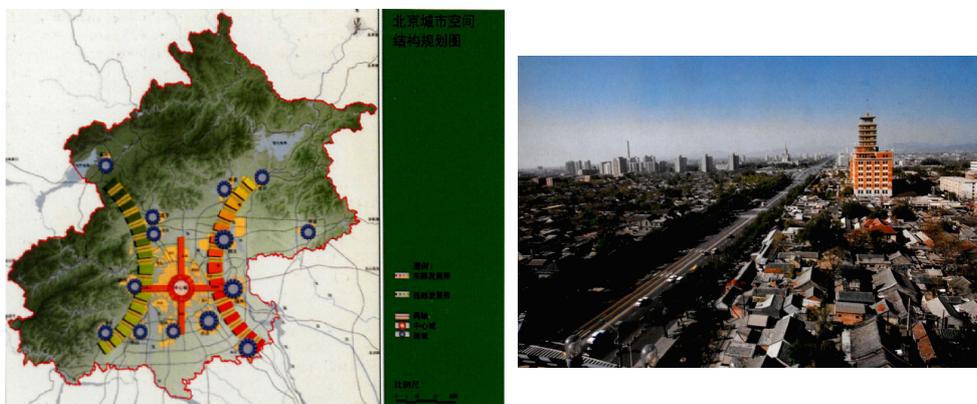
Fig. 47: The image of Beijing spatial structure development and planning in the new Regulating Plan of 2004-2020 (Beijing People's Government Master Plan 2004) (Left)

Fig. 48: The view of conserving the "Old Beijing Style" in its historic center (Greco et al., 2008, p. 123) (Right)

Hence, to offer an explicit image of urban spatial structure development, the urban layout was readjusted in 2004, and the new Regulating Plan of 2004–2020 in Fig. 47 was laid down. According to Beijing Mayor Qishan Wang, the concept of urban system was emphasized through "the improvement of the two axes, the development of the two 'belts,' and the construction of multiple centers" (Wang 2004). That is to say, the planned urban system is composed of two historic axes, two belts of urban development and a constellation of 13 towns throughout the suburban areas.

Specifically, the "two axes" are presented, consistently for the historic conservation of the *old Beijing style* beneficial to remain regional cultural features (Fig. 48). As the city's identity, this becomes an essential foundation for the development of urban landscape. The "two belts" including "The ecological Belt" and "The Productive Belt" as essential planned corridors indicate general directions of spatial development in the next few years (Ibid.). The structure of multiple centers is established under the policy of *new villages*, with the purpose of guiding the spatial development intentionally, and narrowing the regional gap between the urban and rural, through building various connections. In conclusion, by the 2004–2020 master planning, the *megalopolis* will be planned to evolve into a polycentric structure. As Claudio Greco et al. stated, "Beijing's growth mechanism, for the first time in its history, is ready for substantial change" (Greco et al., 2008, p. 125), that is, the urban spatial structure from the mono-centered to a network of poles in the urban region.

Nevertheless, the master planning of over 50-year development still have deficiencies. Generally, the urban layout is still loosely organized, without close connections between spatial structure and urban landscape. Apart from the definite transportation infrastructure of the five-ring-system, functional axes and belts, and the urban and landscape structures are not associated with their overall concept (vgl. Stokman et al., 2008, p. 32). This is precisely because of the lack of integrated concept, an imbalanced development of urban landscape generated, and the strict division of spatial structure between the inner city and the countryside.

② **Urban Landscape in the Megalopolis**

As analyzed previously, the spatial structure in the *megalopolis* shows an obvious urban-rural separation, despite the policy of building "New Socialist Countryside" proposed by Chinese government in 1956. The policy aimed to bring about a radical improvement in

terms of economy, infrastructures, culture, and environment.

The binary structural opposition is reflected in landscape. For the single effect of *city beautiful*, the landscape is organized and valued in the inner city through the highly artificial and ornamental approach, whereas the chaotic and underestimated rural landscape spreads in the extensive countryside. The formative cause of differential landscapes lies objectively in remarkable gaps on aspects of social structure, economic level, and urban infrastructure. The two opposite landscapes have the same theoretical foundation in Chinese landscape architecture, the so-called *city beautiful*. The concept derives from the global *city beautiful movement* in the 1893 Chicago's World Columbian Exposition, and is created by journalist and urban planning theorist Charles Mulford Robinson in 1903 (vgl. Yu 2012). Transferred into Chinese landscape architecture, the *city beautiful* has been regarded as among the most important ends for urban landscape planning and construction. The urban landscape meaning from this perspective will be rethought in the last section.

However, with the changes in Beijing urban structure and society, the comprehension of urban landscape certainly needs to be expanded. It will be a tendency that the boundary between the urban and the rural may be finally dissolved over time. The situation is similar to the explained urban phenomenon in two developed regions above. At the present stage, in the gradual transition of Chinese city and society, the primary things are to reduce barriers between the urban and the rural, and city and landscape, through eliminating the dualistic thinking pattern, and to improve their reconciliation further, that is, breaking out of strict spatial and conceptual division and promoting the interconnections. At the same time, with the increased level of urbanization, the concept of Chinese urban landscape is by no means narrowly viewed as city landscape, which is the landscape only in and around city center, where most landscape architects had a large number of tasks and did a great deal of work. In contrast, the landscape in wide countryside could not be disregarded and excluded in planning and design. In this sense, the concept of urban landscape needs to be expanded if the city is regarded as a unified and interconnected system, and the landscape is expected to function in a broad scope.

Shan-shui City (The City of Mountains and Waters)

In the wake of ubiquitous urbanization and globalization, a generic urbanism also inevitably emerged in China. As the world's largest manufacturing base, most Chinese cities are gradually deprived of their unique urban cultures and cultural spirit. Increasingly similar, featureless city images emerged. As Chinese architect Ma Yansong stated, a host of "soulless shelf cities" (Ma 2013) appeared in contemporary China. The crisis of city's cultural identity may ascribe to a blind pursuit of profit maximization and utilitarianism, that is, the pursuit of material civilization. It reveals that the impetus of economic development

has far exceeded other factors in the social transition and urban growth.

Hence, Chinese professionals began to reflect and explore the nature of city. Until the end of the last century, cities were not supposed to be living machines, as "even the most powerful technology and tools can never endow the city with a soul" (Qian 1996). In 1990, the idea of *Shan-shui city* (the city of mountains and waters) was re-proposed by Chinese scientist Xuesen Qian for the theoretical conception of contemporary Chinese cities based on the traditional and ideal *Shan-shui* culture and spirit. Since 2000, Chinese urban planner Liangyong Wu has considered the *Shan-shui city* would become an essential planning concept for managing a harmonious relationship between natural environment and human settlements. In his book "An Introduction to Sciences of Human Settlements," he explained the idea of *Shan-shui city* as blending artificial into natural mountain-river pattern (Fig. 52) (Wu 2001).

① **The Ideal of Shan-shui City**

The term of *Shan-shui city* means the combination of urban construction with natural environment composed of physical geographic elements (vgl. Chen 2010, p. 1). They embrace topographic and hydrological morphologies, that is, mountains (Shan) and waters (Shui). These morphologies are presented both as natural, site-specific, and man-made art in the planning and design. Essentially, the *Shan-shui city* emphasized the shaping of a regional spatial structure and *Shan-shui* relations in the tradition of Chinese urban spatial planning. They are concluded as the formation of *Shan-shui* structure that is regarded as a holistic approach for urban analysis and planning by ancient Chinese urban planners. At the same time, it reflects one of the most important traditional and ideal philosophies: "harmony between man and nature." In other words, *Shan-shui city* becomes a symbol of an ideal relationship between human and nature, mostly derived from the traditional Chinese painting in Fig. 50.
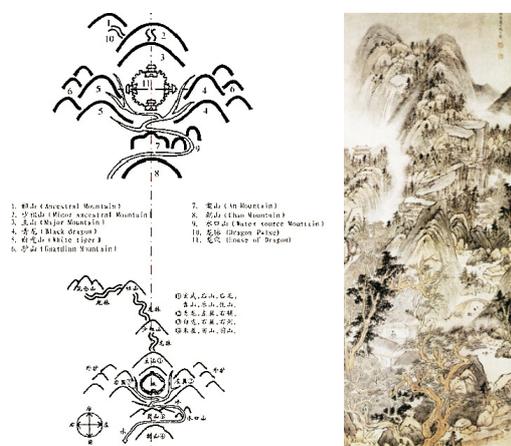
Fig. 49: According to the laws of traditional Feng-shui (wind-water) theory, an ideal and desirable

Fig. 50: "Shan-shui city" as a symbol of ideal relationship between human and nature is derived from the traditional Chinese painting (Ma 2012) (Right)

In the traditional *Shan-shui* culture, the concept of *Shan-shui city* dates back to ancient times, expressing the mountain-water worship. It followed the Chinese ancient politician Wu Zixu's spatial strategy of "locating cities by observing the earth and examining the water" for defense, during the 5th century B.C. (Chen 2010, p. 1). Generally, as an ideal location of city, the city is embedded in natural *Shan-shui* context. Being a long-standing urban model, *Shan-shui city* is influenced deeply by the traditional *Feng-shui* (wind-water) theory that "recognized at the beginning of the Han Dynasty in 206 B.C." (Shannon 2012, p. 201). Making reference to the laws of *Feng-shui* theory, ancient cities, villages, and residents surrounded by natural mountains were arranged in a desirable location, facing waters, and warm, south winds (vgl. Hu 2008). According to that theory, Beijing city was thus successful to be planned and constructed (Figs. 49 and 51).
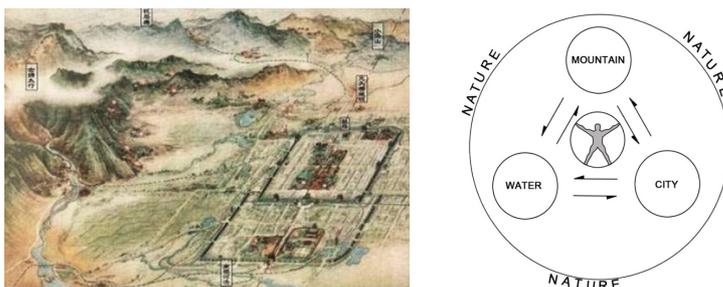
Fig. 51: Ancient Beijing city was planned according to Feng-shui (wind-water) theory (Hu 2011) (Left)

Fig. 52: Liangyong Wu's idea of "Shan-shui City" as blending artificial into natural mountain-river pattern (Wu 2001) (Right)

In fact, Chinese professionals attempted to search their lost *Shan-shui* cultural spirit and the holistic approach. As Chinese urban planner Liangyong Wu stated, "the tight integration of 'architecture—landscape—city' is the core of the traditional Chinese city design theory and methodology" (Wu 2000; Chen 2010, p. 1). However, ancient urban planners' holistic view is not inherited by contemporary Chinese urban planners and landscape architects. Increasingly apparent separation of regional planning and landscape planning and design makes the urban landscape to be understood and analyzed at a relatively small scale. This key point will be well reflected in the following part.

② **Urban Landscape in the Shan-shui Structure**

Shan-shui city as the ideal urban model essentially aims to shape a futuristic utopian urban

landscape that requires to be considered in the critical thinking. In fact, a number of Western professionals have become averse to adding more passion by pouring thoughts about the future into the molds of more-or-less comprehensive utopias (vgl. Berger 2009, p. 91). Pursuing an illusory landscape image may not only lead to give up the concern of urban reality, but also produce a fixed thinking pattern. As Alan Berger stated, "nothing is really wrong with ideals. It all goes wrong, though, when programmes put forth to realize an ideal are elevated to the level of dogma" (Ibid.).

Hence, for Chinese urban landscape, the generation of futuristic utopian image should not be the focal point, instead natural and man-made *Shan-shui* structure is supposed to be extracted creatively from specific sites and artistic represented by urban planners and landscape architects, based on the understanding of *Shan-shui city*. The *Shan-shui* structure as a unique spatial structure means the holistic approach to analyze and plan sites at both regional and local scales. It embraces not only the construction of *Shan-shui* framework at regional scale, but also the piling of mountains and formation of waters in an artistic manner at a local scale. The natural texture as an objective reference for planning and design becomes one of the most important landscape elements. In conclusion, for Chinese urban landscape, the construction of *Shan-shui* spatial structure under the guidance of *Shan-shui* culture may turn into an essential issue.

Global City

In 2010, Chinese urban planner Huanzhang Ke proposed to construct Beijing city as "Global City" ("World City"). The term is introduced from sociologist Saskia Sassenin's concept in 1991. For the urban development model from a global perspective, Chinese researcher Wang Feng stated that "Beijing's current government plan still promises to place a high priority on elevating the city's profile on the world stage. Beijing's 12th Five-Year Plan, the principal blueprint for the city's economic development, sets the overarching goal of transforming Beijing into a 'world city with Chinese characteristics" (Wang 2013, p. 9).

To connect the global urban system, this concept will place an emphasis on the rise of urban competitiveness and influence worldwide through an all-around improvement of urban functions, large-scale infrastructures, environmental quality, and cultural characteristic, among others (vgl. Gu et al., 2010, p. 3). It also suggests that Beijing's long-term goal is to construct not only a national capital city but also a cultural and livable city with compelling cultural identity. From this viewpoint, urban landscape is expected to be a distinctive and attractive factor in the urban development in order to avoid a generic urbanism.

Sponge City

① **Ecological Priority**

In 2012, with fresh water shortage and urban flooding occurring in Chinese cities, landscape architect Kongjian Yu proposed the concept of *sponge city* or *ecological city* to clean and store urban storm water, and build a capacity for sustainable urban development. It indicates that the ecological and environmental conservation will be a challenge for both Chinese authorities and relevant professionals for a long period. Seen from *sponge city*, a principle of ecological priority is established.

The concept of *sponge city* borrowed the function of real sponge to give a metaphor to city. A city could act as a green sponge to improve urban functions of natural storage, permeation and purification. In Kongjian Yu's point of view, "using the landscape as a sponge is a good alternative solution for urban storm water management" (Yu 2012, p. 152). In essence, the concept of *sponge city* generally highlights the resilience of city from the ecological perspective and signifies an increase in the ability for nature to respond to change.

② **Urban Landscape as Green Ecological Infrastructure**

The proposition of *sponge city* stimulated Chinese urban landscape from a landscape-ecological perspective. Specifically, it is the urban landscape as green ecological infrastructure that borrowed the 1990s understanding in certain Western developed countries, identified as "a widely recognized planning tool for natural conservation and regional and urban development" (Benedict et al., 2002; Yu, et al., 2005).

Substantially, the comprehension of ecological infrastructure is not within the traditional scope of landscape architecture, because the urban landscape has been deficient of ecological theories. A primary reason may account for that. The dominated *Feng-shui* theory in the traditional landscape meaning was believed as the scientific, reasonable principle to deal with relationships between nature and human, rather than introducing and developing certain other ecological ideas. However, the ancient *Feng-shui* theory is impossible to be inherited completely by landscape architects and urban planners, nor to tackle increasingly severe ecological and environmental issues in the contemporary urban society.

As a result, more Chinese professionals attempt to address urban ecological problems, with the aid of landscape-ecological theories, and make a combination with urban landscape. On this aspect, Kongjian Yu's formulation of Chinese urban landscape as green ecological infrastructure at large and regional scales made up for this blank, to a certain degree. He proposed certain "landscape strategies to protect and strengthen ecological infrastructure," such as:

> "Maintaining and strengthening the overall continuity of landscape patterns and processes; protecting and establishing diverse native habitats; integrating the former farmland shelterbelts into urban green systems; establishing green heritage corridors that integrate environmental protection, leisure, education, and cultural heritage preservation and that include areas along gorges, channels, roads and railways; integrating parks into cities as the basic means of achieving high-quality life." (Yu 2012, pp. 47–48)

In conclusion, through analyses of four concepts of Beiing city, many critical challenges of contemporary urban landscape are clear. They are also understood as the significances of city concepts for urban landscape.

First, in the gradual transition of overall spatial structure, urban and rural spaces are integrated increasingly. The theoretical understanding and practical construction of urban landscape should be expanded accordingly. It is not any more focused on the core region of city for so-called images, according to the single, *city beautiful* standard. The expanded concept of urban landscape will be one of the rethinking contents in the latter part of this work (see p. 134). Moreover, Chinese landscape architects and urban planners should perceive and discover plain, ordinary, and artless beauty in the wider rural space, instead of ornamental, grand, and high-maintenance beautification. Urban landscape is supposed to embrace more urban and rural elements as conceptual resources.

Second, although *Shan-shui city* is the utopian Chinese ideal, the *Shan-shui* structure is regarded as an essential, distinguished analytical, and design approach to urban landscape. It entails the Chinese *Shan-shui* culture that will become the foundation of diverse urban landscape in contemporary cities. How to better apply to the *Shan-shui* structure in landscape architecture is bound to the pivotal issue in the future.

Third, in the viewpoint of *global city*, the 'landscape' as the key element of urban development begins to be concerned. That is to say, the essential role of landscape at the regional level with abundant cultural features desiderates to be acknowledged widely by the authorities and related professions of planning and design.

Fourth, from the perspective of *sponge city*, it is necessary to enhance urban ecological function for the sustainable development of contemporary city. Therefore, the understanding of urban landscape requires to break through the traditional boundary and accept the ecological ideas critically from developed countries. This aspect will be explained in the following part of rethinking landscape and ecology.

Table 5: Four concepts of Beijing city and their corresponding understanding of contemporary urban landscapes (made by the author)

Concept of Beijing City	Perspective	Contemporary Urban Landscape
"Megalopolis" (Shane 2011)	—The perspective of urban spatial structure: continuously sprawling nature of city in a way of mechanical growth	—Urban landscape for *city beautiful*: highly artificial and ornamental landscape valued vs. chaotic rural landscape, in the binary opposition of the urban and the rural
"Shan-shui City" **(The city of mountains and waters) (Qian 1990)**	—The ideal and traditional perspective, based on Chinese *Shan-shui* culture and spirit	—Utopian urban landscape: *Shan-shui* structure as a unique approach to analyze and plan urban landscape
"Global City" **("World City") (Ke 2010)**	—The perspective of city identity	—Urban landscape as a distinctive element, playing an essential role in the urban development and avoiding a generic urbanism
"Sponge City" **("Ecological city") (Yu 2012)**	—The landscape-ecological perspective: enhancing urban ecological function for the sustainable development of contemporary city	—Urban landscape as green ecological infrastructure

6.1.2 Rethinking Chinese Urban Landscape

In the research, the most essential foundation for rethinking and readjustment of Chinese urban landscape is in search of its own cultural identity, instead of the simplistic, blind imitation. Given North America's "truly ecological landscape architecture" (Corner 1997, p. 102) and German-shaped cultural landscape architecture, the identity of Chinese urban landscape could be explored largely through the following three levels, on which the comparison between North American and German urban landscapes are also formed in the fifth chapter. They are the similar perspectives: landscape understanding, landscape and ecology, and landscape and life.

Rethinking Landscape Understanding

① **Expanded Landscape Concept**

The existing cognition of contemporary Chinese urban landscape could be formulated as: blending Western modern idea of *city beautiful* with ideal and traditional understanding of nature. Derived from the imitation of *first nature*, the harmonious view of nature expresses

the worship and passion of nature, and the reshaping and representation of the nature in a man-made and artistic way. It illustrates that Chinese landscape architecture is closely linked to the traditional culture of emphasizing the *unity of man and nature* on spiritual plane, greatly influenced by Chinese Laozi's "Daoism" in his work "The Dao De Jing" during the ancient Chunqiu period: "Man follows earth, earth follows heaven, heaven follows the Dao, the Dao follows nature."

The combination of *city beautiful* and traditional view of nature constitutes the dominated theoretical comprehension of Chinese landscape. Consequently, they lead to homogeneous urban landscapes in pursuit of excessively superficial decoration and artificiality spreading over Chinese cities, and the long-standing simplistic and ideal understanding of landscape. They reflect a blind following of the so-called trend in Western developed regions, without the critical thinking on the one hand, and absolute landscape concept without relying on the changing urban condition, on the other hand.

Chinese landscape understanding is reconsidered to be expanded. The landscape is as an ideal image or a symbol with abstract Chinese cultural meanings. It could also be viewed as diverse, specific spaces, and green infrastructure for improving the social and ecological qualities of urban green open spaces.

② **Landscape at an Urban Scale**

In planning and design, the landscape becomes involved in the extensive (re)construction and (re)development of urban space. Theories of *landscape urbanism* in North America and "a city-landscape continuum" in Germany (Sieverts 2003, p. 47) have offered arguments for that in the second chapter. Both of them display contemporary urban landscapes' increasing roles and potentials at the urban level. The urban comes from the explained and reiterated concept of *urban region* in the research. Beside the Western theoretical concepts, Chinese landscape architect Jie Hu speculated that "the urban scale landscape planning and design projects are quickly spreading nationally" (Hu 2011). Within this consideration, he advocated to "break out of microscopic scale landscape planning and design; strengthen the category of 'ecology and culture as the guide of landscape planning and design in urban scale" (Ibid.).

Consequently, the Chinese landscape does not primarily tend to be considered as *city landscape*, but an urban landscape. Since the 1980s, the concept of *city landscape* has appeared in Chinese landscape architectural discipline to describe the landscape merely in and around the city center. However, its understanding is no longer appropriate to the growing urban spatial structure at present and in the future. It needs to be expanded to urban region. Particularly, in the face of the binary division of the urban and the rural, the cognition of urban landscape or landscape at an urban scale may contribute to the

development of urban-rural integrated spatial system.

Moreover, influenced profoundly by traditional gardening techniques in ancient times, Chinese landscape has been limited at a relatively small scale. The traditional techniques of gardening, such as *imaging the big from small* and *world-in-a-pot*, are used to be applied to close, independent, and confined spaces in both historic northern-royal and southern-private gardens. This deep-rooted historic and cultural factor also confines the understanding of contemporary Chinese landscape at urban scale. It resulted in the bigger gap between contemporary landscape architecture and regional planning, because the former is strictly distinguished as a small scale, whereas the latter as an urban, regional scale. In this situation, the significance of landscape in the transformation and redevelopment of wide urban space could not be found and better understood.

Therefore, instead of traditional gardening techniques, a holistic approach suitable for landscape at urban scale needs to be advocated to integrate Chinese landscape architecture with regional planning. As stated explicitly in *Shan-shui city*, the *Shan-shui* structure created by ancient urban planners is supposed to be inherited by contemporary urban planners and landscape architects.

Rethinking Landscape and Ecology

As regards the related ecological theory in Chinese landscape architecture, the prominent one may be Kongjian Yu's concept of ecological infrastructure. He highlighted to construct Chinese ecological infrastructure at regional, city, and district three scales (vgl. Yu 2012, p. 47). In 2005, he proposed a "negative approach," the "untraditional planning methodology" for "giving priority to what not built up and dedicated to protecting and strengthening ecological structure instead" (Ibid.). Opposing to a rampant, destructive urban exploration, Kongjian Yu's approach actually offered a unique perspective suitable for Chinese specific circumstance, which attempts to make the processes of construction and development to calm down.

Apart from Kongjian Yu's opinion and the traditional design philosophy of *unity of man and nature*, there are hardly any contemporary ecological ideas combined with Chinese landscape architecture. The probable reason for this situation is the belief in the ideal view of nature that could handle almost all contradictions and complex environmental problems. In fact, the primitive and ideal ecological idea is difficult to fully work in a contemporary urban condition. In this sense, it demonstrates that the discipline of landscape architecture in China is not as intellectual as the one in North America and Germany.

Thus, it is indispensable to form a contemporary understanding of nature in Chinese urban social condition. That is to say, a cultural construe of contemporary nature requires to be

specifically formed, exactly as North American dynamic, *non-equilibrium* ecological view or German technical-natural balanced ecological view.

Rethinking Landscape and Life

The contemporary landscape is possible to look for its rich connotations from the urban life. As revealed above, unpredictable life offers North American urban landscape more creative possibilities and potentials over time, and the formation of diverse social spaces in German landscape architecture comes from the acceptance of diverse urban life.

For the Chinese urban landscape, it is not simplistically explained as an ideal image or a symbol with abstract cultural meanings. Both explanations pertain to the dimension of cultural superstructure that is more or less difficult to be accepted, as it is far away from contemporary urban everyday life. Instead, Chinese landscape architecture has more opportunities to discover interpretations from contemporary urban social life, if the life would be viewed as the essential source of planning and design.

6.2 Concept of and Reflection on Country Parks

As one of the large-scale park models, the concept of Chinese *country parks* originates from Hong Kong. On account of British colonial rule, Hong Kong followed the term in the United Kingdom, where most *country parks* during the 1970s were acknowledged by its government, according to Countryside Act 1968. In Hong Kong, since 1976, with the enactment of Hong Kong Country Parks Ordinance, the designation, development, and management of *country parks* have been in process by Agriculture, Fisheries and Conservation Department (AFCD). Guided by this framework, until 2013, a large-scale park system composed of 24 *country parks* was created (Fig. 53). Within the extensive park system, the *country parks* are planned and established, aiming at integrating and conserving essential landscape elements as well as natural resources, including hills, woodlands, wetlands, islands, reservoirs, and coastlines.

Hong Kong's *county parks* provide an exemplification for the planning and design of contemporary large-scale parks in the urban-rural fringe, and even wider urban region. Followed by Hong Kong's experience, Beijing city began to plan and construct its own country park system in 2007, following the 2004–2020 Beijing master plan and green system plan. Particularly, within the proposed greenbelt strategy since 1958, *country parks* have always been essential components of planned greenbelts. Consequently, a series of country parks at multiple scales emerged and distributed in both inner and outer greenbelts that will be analyzed as follows.
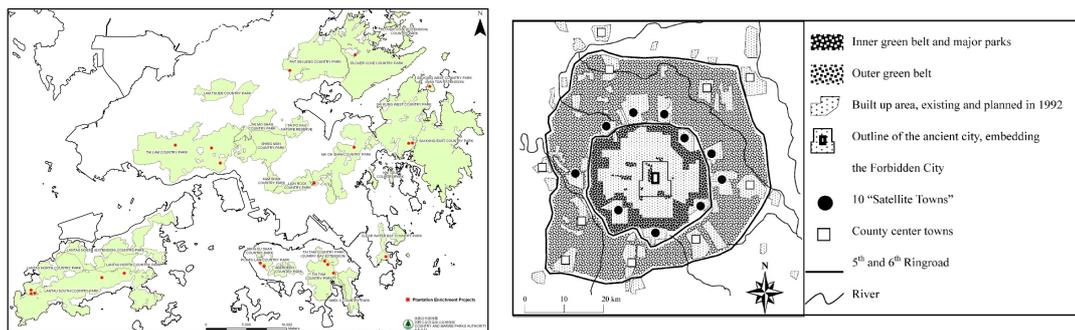
Fig. 53: Hong Kong's country park system was created until 2013(Country and Marine Park Authority 2009) (Left)

Fig. 54: Two-layered greenbelts (inner and outer green belt) in Beijing city were planned (Li et. al., 2005, p. 328) (Right)

6.2.1 Country Parks in the Greenbelt Strategy

The greenbelt strategy of Beijing city was established, with the concept of inner greenbelt in the 1958 Regulating Plan. Through a planned greenbelt, a broad zone for green open space is expected to form so as to control urban sprawl; restrict against over-development; coordinate development between urban and rural areas; and improve urban ecological environment.

However, from 1958 to 1992, with the decrease in inner greenbelt from 314 km^2 to 240 km^2, the encroachment of urban development on the planned greenbelt is continuous (vgl. Li et. al., 2005, p. 328). The primary reason for that could be attributed to the uncontrollable urban expansion. It is always driven by "unrelated governmental or politically motivated actions and by private economic activities and speculation" (Stokman et al., 2008, p. 32). At the same time, "there are not enough resources to devise and implement regulatory policies and tools to control the pace of development" (Ibid.). Consequently, the inner greenbelt during the 1990s seemed to be "futility" (Yu 2012, p. 47).

Nevertheless, the second-stage greenbelts, with more *country parks*, were still planned in 2004. At present, there are two-layered greenbelts, the inner greenbelt located between the fourth and fifth ring roads, at the transition between the inner city and the surrounding satellite towns; the outer greenbelt located between the fifth and sixth ring roads, at the transition between the urban and the rural, as shown in Fig. 54 (vgl. Li et. al., 2005, p. 328). The 25 *country parks* in the inner greenbelt had emerged until 2011. According to the fragmented distribution of major *country parks* in the present inner greenbelt, most *country parks* at multiple scales are less connected with each other in reality (Fig. 55). Most *country parks* cover less than 100 hectares; among the biggest parks is the 680-hectare Olympia Forest Park. Aside from these parks, in the extensive area of outer greenbelt, four *country*

parks at a regional scale had also been planned in 2007 (Fig. 56).
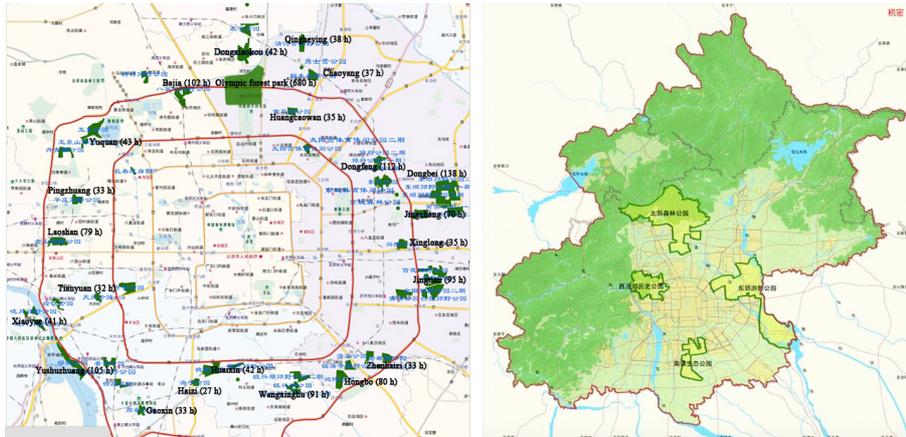
Fig. 55: The fragmented distribution of major country parks in the present inner greenbelt (made by the author) (Left)

Fig. 56. Four country parks are planned in the outer greenbelt in 2007 (Beijing Municipal Institute of City Planning & Design 2007) (Right)

6.2.2 Rethinking Country Parks

In the face of the current situation of two-layered greenbelts, it is necessary to critically consider of *country parks* in Beijing city from the qualitative perspective. The above five qualities embodied in both North American and German park models: complexity, diversity, sustainability, appropriation and identity are likewise reconsidered as follows.

Complexity

As articulated in the above chapters, identified as dynamic, messy, contaminated park site, the North American *large park* complexity is generated in the established complex systems. In consideration of the interweaving of information and elements on park site, the German *large park* complexity is reflected in the complex design process, combined with existence and invention. Two pathways in developed regions suggest complex practical environment analyzed within their own landscape architecture drives the planning and design of large-scale parks.

However, influenced by the concept of *city beautiful* and traditional view of nature, *country park* complexity is less considered. On the contrary, they are frequently conceived in an ideal urban social and ecological condition. In this situation, *country parks* within greenbelts are always planned and designed in the same way as urban parks in inner city, despite facing intricate man-land relations in urban-rural fringe, and contaminated, derelict sites. When the

shared challenges of urban nature and society on post-industrial sites addressed by the North American and German landscape architecture, the simplistic thinking about *country parks* without the complexity is far from enough for their further conception. In fact, the *county parks* need not to generate beautified landscape continuously in the current Chinese cities, but of sustainable urban landscape for the improvement of urban ecological environment in the gradual transition of society. In this sense, the theoretical analysis of complexity pertaining to the organic North American model is relatively beneficial to the understanding of *country parks* from the ecological perspective. Particularly, the dynamic and process-oriented feature may greatly change the long-standing Chinese park concept in a static way as well as the construction accomplished overnight, without a possibility of further adaptation.

Diversity

In reference to the *heterogeneity* of North American *large parks* focusing on the biodiversity, its largeness, and spatial connections and interactions become its necessary conditions. As for current *country parks*, in the face of havoc of urban ecological environment, enhancing ecosystem functions is greatly based on the biodiversity, which is indispensable for their planning and construction. Hence, their diversity tends to be reflected from the landscape-ecological perspective.

Essentially, diversity means to integrate diverse landscape elements into *country parks*. In other words, they should be positioned within interconnected landscape systems. From a regional perspective, the landscape elements surrounding *country parks* are supposed to be organized through building regional corridors between ecosystems. In the inner greenbelt of Beijing city, the spatial organization of a series of *country parks* does not have connections with their surrounding landscape elements, such as mixed coniferous and broad-leaved forest, grassland, water body, wetland, and agriculture. Consequently, most *country parks* in Beijing generally present a fragmented, scattered spatial distribution, and they are disconnected from the ecological context.

Sustainability

With the lack of ecological ideas in Chinese landscape architecture, sustainability is seldom truly shown in *country parks*. Under the deep influence of *city beautiful*, most of them are designed as artifacts and built with an obvious ornamental feature that requires numerous human and material resources, higher costs of both maintenance and construction.

For the coginition of sustainability, both the North American *resilience*, and the German sustainable utilization of remnants and coherent development of spatial quality may offer

certain helpful information and clues. Hence, in search of Chinese cultural understanding of sustainability is essential for *country park* conception, particularly from the landscape-ecological perspective.

Appropriation

Given the social appropriation considered in North America and Germany, both of them are useful in daily urban life. For the North American *large parks*, the appropriation is greatly realized through a form of self-organization in the growth and transformation of parks over time. The programmatic indeterminacy plays a key role in the processes. For the German *large parks*, diverse appropriation at different levels of social organization, including ordinary individuals, groups, communities, and society, is the basis of diverse spatial organization. Both focal points of social appropriation reflect open, free, autonomous, and equal characteristics. They are beneficial to the rethinking of Chinese *country parks*.

The social appropriation needs to appear in everyday life. For *country parks*, the lack of accessibility and availability may be the main factors for less appropriation. Regarding accessibility, there are less connections between *country parks* and infrastructure, villages, residences, or business area. *Country parks* are not planned within an integrated urban system. Thus, they are difficult to be an everyday social space for diverse uses. Moreover, instead of being availabile, most *country parks* are used to be designed as scenic space with visual landscape elements, concentrating on aesthetic and sensuous qualities. From this point, abundant and attractive activities, programs and events, and spontaneous or organized, are seldom fully considered.

Identity

The previous discussion on the identities of two park models is grounded based primarily on affirming them to be the urban landscape. Two analyzed *large park* models are not concentrated on the concept of park. Instead, they are similarly viewed as open, extensive, and connected landscape at the urban level, with the dissolution of urban spatial structure and the growth of urbanity into landscape. In contrast, Chinese *country parks* are theoretically and practically considered as park, mostly determined by the urban-rural binary structure still as the dominating urban organizational form. In this sense, the search of *country park* identity first demands for breaking out of the binary thinking pattern in the urban planning and design.

Compared with the North American organic and German structural identities, *country parks* require to explore and establish their own one. Apart from the concept of park, it is difficult to describe immediately their precise identity in the Chinese cultural context. In reference to

developed regions' experiences, it is essential for them to find their own cultural identities critically and intellectually. To seek its cultural identity, for Chinese professionals, there is still a long way to go.

In reference to the two park models, the rethinking of *country parks* not only embraces a theoretical analysis from the qualitative perspective, but also a practical park case analysis in Beijing city, where a *country park* was planned and designed taking the opportunity of Olympic Games.

6.3 Practical Project of Country Parks: Beijing Olympic Forest Park

6.3.1 Tsinghua Team's Olympic Forest Park

Olympic Forest Park (680 hectares) stretching across the fifth North Ring Road is considered as today's largest *county park* in Beijing city (Figs. 57 and 58). The whole park is divided into northern and southern halves by the ring road. The USA Sasaki Associates won the 2001 international competition for conceptual planning and design of Olympic Green that is composed of Olympic Forest Park, a central area and sports center. In 2003, combined with the concept of Olympic Green, the winning scheme for the Olympic Forest Park was proposed by Tsinghua Urban Planning and Design Institute, the team led by Chinese designer Jie Hu.
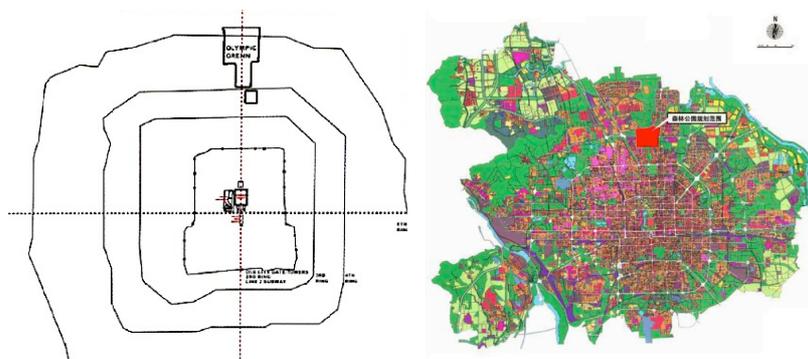
Fig. 57: The location of the Olympic Green (Shane 2011, p. 21)

Fig. 58: The location of the Olympic Forest Park (Hu 2008)

Site for Transformation

The former land used is a reserve land, compared with other contaminated post-industrial sites in North America and Germany and is transformed into the *country park* through the opportunity of significant urban event. Hence, the 2008 Olympic Games becomes a catalyst

for the redevelopment of suburban areas, and the construction of urban green open space.

Finally, as one of the new, massive urban projects, the Olympic Forest Park is considered as an instrument to confront today's urban social and ecological problems and to reconcile with China's own past cultural tradition.

For the urban society, it strives to show model solutions for most crowded Chinese cities (vgl. Belle 2008, p. 22). To a certain extent, the large green area relieves the scanty situation of urban green space, from the quantitative perspective. In addition, in terms of urban social demands, there is a spatial transition from park's south to north: artificial, semi-natural to natural spaces. Primarily, the southern part is the venue with provisional facilities providing for various events during the games. After that, they continue to be used as recreational and educational facilities for urban residents and visitors. The northern part serves as ecological conservation.

For the urban ecology, on the one hand, the *country park* applies to modern technologies, such as "a hydrological and water quality simulation process" and "compound water treatment system" to enhance the sustainable circulation and utilization of water resource by "making use of reclaimed water as the source of water system and recharge for landscape water" (Hu 2011). Hence, a self-sustaining and self-regulating water system is formed by planners and designers, particularly in the droughty Beijing city. On the other hand, a primary ecological corridor is constructed over the fifth ring road, according to the ecological principles in Fig. 63. The built corridor is the connected part between the northern and southern parts and serves as the pathway for the movements of energy, animals, and people.

For the traditional culture, its planning and design incorporate China's history through a grand axis connecting many historic spaces with Olympic Forest Park, through a symbolic image of Chinese *dragon* turned into the aerial view of planned stream, and through the established *Shan-shui* structure considering the *Shan-shui* culture.

Spatial Structure: Cultural Axis to Nature and Shan-shui Structure

The idea of "Axis to Nature" by Tsinghua team was presented to guide a spatial transition from urban historic center to urban nature (Figs. 60 and 62). It symbolizes the co-existence of nature and human in an ideal, harmonious manner. The grand spatial axis is planned along the north-south imperial central axis, and is extended further toward the Olympic Green. On this axis, several essential points are marked, such as square, the Forbidden City, and tower, which form a spatial sequence. As to the Tsinghua team, "the axis has witnessed the changes in the history of Beijing and has carried the symbol and memory of history, culture and politics" (Hu 2011). On its ending node, the Olympic Forest Park is precisely

arranged in Fig. 59. In this sense, the position of the Olympic Forest Park is identified in terms of "a hierarchical procession" (Selugga 2008). Forbidden City is positioned in a central place as an old cultural symbol.
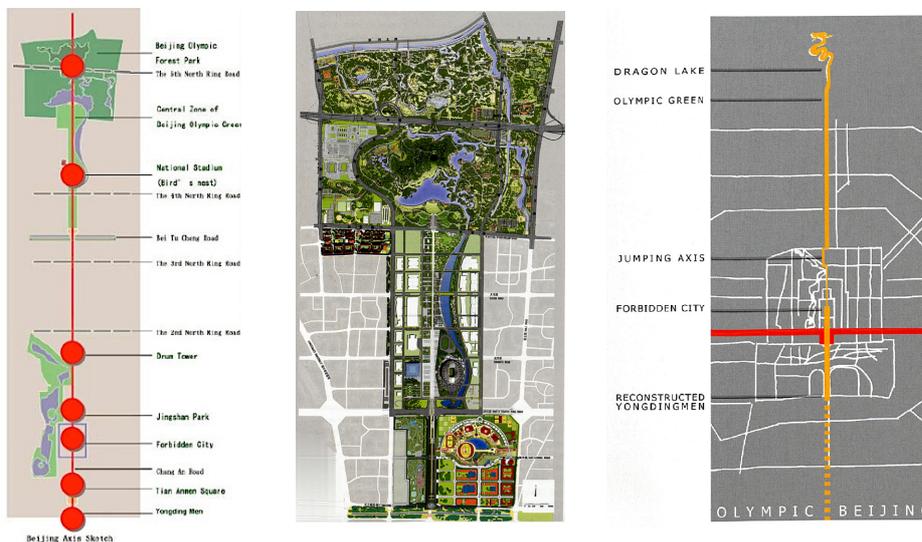
Fig. 59: The Olympic Green as an extension of Beijing historic, cultural axis, and the Olympic Forest Park on its ending node (Hu 2008.) (Left)

Fig. 60: The 2003 master plan of the Tsinghua team (Ibid.) (Middle)

Fig. 61: The image of "dragon pulse" shaped through water system, which connects Olympic forest park to historic cultural axis and Olympic Green (Selugga 2008, p. 17) (Right)

However, in rethinking this Beijing historic cultural axis, it merely shapes a connection between the new Olympic Green and the ancient core area in a relatively simple and direct way. The overall spatial structure of *country parks* is mostly reflected in the north-south axis and the five-ring-road system. Planners and designers attempted to use the axis to symbolize a formal continuation of Chinese traditional culture. In this situation, the image of *dragon pulse* is formed because *dragon* is regarded as a symbolic icon for ancient emperors in Fig. 61. Therefore, a dragon-shaped water system is planned and designed. It could be shown in the master plan of the Tsinghua team (Fig. 60). From this explanation, an abstract cultural meaning still plays an essential role in planning and designing Chinese urban landscapes.

Moreover, the axis to nature also influences the *Shan-shui* structure of park. In this spatial framework, the man-made mountain range, piled up as the park's highest point, becomes a symbolic terminus of the axis. The highest artificial mountain and the dragon-shaped water system commonly comprise the *Shan-shui* structure of Olympic Forest Park.
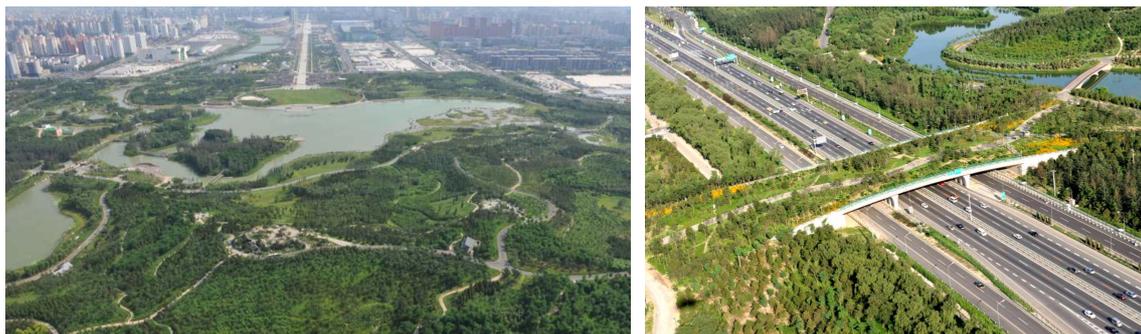
Fig. 62: The aerial view: "Axis to Nature," which guides a spatial transition from urban historic center to urban nature (Hu 2011)

Fig. 63: The primary ecological corridor over the 5th ring road (Ibid.)

Beijing Forest Park is considered as among the most important landscape-based projects, as not only it was propelled by the international Olympic Games but also it sought to plan and design contemporary urban landscape from both ecological and cultural perspectives. It also demonstrates that Chinese authorities and professionals begin to contribute to implement urban developing programs in the suburban area by virtue of the landscape role.

In the last chapter, taken Beijing city as an example, the third large-scale park model of *country parks* is reflected critically in the face of Chinese urban landscape status quo, its specific challenges, and the analytical results of the two *large park* models deduced in Chapter 5. In the rethinking, it is not difficult to find that *country parks* began to be planned and constructed purposely for social uses and ecological balancing effects. However, the lack of cultural identity is or will be among the biggest problems. In the research, the concrete identity suitable for *country parks* could not be identified immediately, but the traditional *Shan-shui* culture is probably one of the most essential cultural conditions suitable to be its identity. More or less, this general orientation will lead to certain related studies on *country parks* in the future.

7 Conclusion

Through the cross-cultural study on North American and German *large parks* and Chinese *country parks*, distinctive insights into contemporary large-scale park models are argued systematically. In this research, North American and German models are separately marked with organic and structural identities, respectively. Focusing on the views of James Corner and Peter Latz, two park models have been found to reflect the deep cultural embeddings of North American *cultural imagination* and German cultural contextualization in accordance with the *critical rationalism* approaches of *critical thinking* and *critical structuralism*. The corresponding relationships among critical approach, cultural embedding, core of shaping urban landscape, and park identity are summaried in Table 6. The findings show that the *critical rationalism* approaches guide and promote the diverse developments of large-scale parks, which embrace an intrinsic cultural understanding of urban landscapes that are shaped according to the core of organism in contrast to difference. Always discussed along two remarkable tracks, North American *large parks* are explained as the organic infrastructure that is organized by a dynamic, functioning matrix for the resilient urban landscape, whereas the German *large parks* are explained as the unique urban space that is organized by an open spatial structure for the characteristic urban landscape.

Table. 6. Corresponding relationships among critical rationalism approach, cultural embedding, core of shaping urban landscape and park identity for North America and Germany (made by the author)

	North America	**Germany**
Critical rationalism approach	— *Critical thinking*	— *Critical structuralism*
Cultural embedding	— *Cultural imagination*	—Cultural contextualization
Core of shaping urban landscape	—Organism for the resilient urban landscape	—Difference for the characteristic urban landscape
Cultural identity	—Organic identity of *large parks* as the organic infrastructure organized by a dynamic and functioning matrix	—Structural identity of *large parks* as the unique urban space organized by an open spatial structure

From the abovementioned chain of relationships, their conceptual approaches, theoretical formulations, and representative project cases for large-scale parks could all be reasonably explained. In addition, their remarkable differences could be deduced to a large degree. The fifth chapter fully argues the differences of two urban landscapes and large-scale parks.

In fact, the *critical rationalism* approach plays a significant role in the constantly evolving analysis and understanding of urban landscapes and large-scale parks. The approach involving persistent rethinking and criticism drives the landscape architecture to be more professional and critical. In particular, the critical approach is necessarily adopted by landscape architecture as a discipline that demands an ingenious combination of theories and practices. This is because in the interaction, it always urges landscape architects to cautiously review their ideas, critically discover some parts of falsifiability, and possibly offer other alternative insights. In the critical readjustments or reconstructions in the urban landscapes in North America and Germany, landscape architects precisely employed this approach to reflect, criticize the modern *functionalism*, and then advance the ideas of *landscape urbanism* and *landscape structuralism*.

Precisely through such an approach, one of the most important parts is found in regional cultural contexts exploring fundamental ways out for contemporary urban landscapes. As mentioned in the introduction, the contributions include three points of differences for urban landscapes between North America and Germany, which are deduced as landscape understanding (coherent vs. creative), landscape and ecology (representation vs. metaphor), and landscape and life (diversity vs. unpredictability). They suggest entirely different insights into urban landscapes in theories and projects, which accordingly guide the development of large-scale parks based on the opinions of Peter Latz and James Corner.

Meanwhile, relying on *information* in the coherent landscape understanding, the German *structuralistic park* paradigm aims to shape open structural spaces with site-specific, characteristic elements through the representation technique that emphasizes spatial qualities. Dependent on the *imagination* in the creative landscape understanding, the North American organic model intends to establish a fluid, adaptive field with non-site conceptual elements by employing *imaging techniques* for highlighting spatial performance. In the German park space, the cultivated natural process occurs via the artistic interpretation and representation of nature, from which a diverse urban social life is generated to meet the various needs and desires of individuals. On the contrary, in the North American park field, the productive natural process is triggered through the *metaphor* for ecological agent, and unpredicatable urban social life is stimulated by flexible, adaptive programs that change social demands and open the door to an uncertain future.

These results indicate that the research question (How are large-scale parks in two developed regions regarded in terms of contemporary urban social, ecological settings?) has

been answered. They also fully argue for the research hypothesis, stating that two large-scale park models, which are constructed with their own critical approaches, embody the rethinking and conceptions of parks on derelict post-industrial sites.

On this basis, the Chinese urban landscape and its *country parks* are reflected. With reference to common points of North American and German large-scale parks as well as four concrete Chinese challenges about landscape conception at the urban level, the *Shan-shui* structural method, the role of landscape and related ecological views, the *country parks* must be deeply explored with a more critical attitude today and in the future. They should be considered primarily as urban landscapes rather than the narrow definition of beautified landscape for the *city beautiful* conception. The distinct regional and cultural identity of each park is expected to be gradually established by increasing urban practical projects that aim to achieve site renewal and transformation. This aspect is likely to determine the trend of *country parks*. In addition, the trend of unique cultural embedding may be fostered in the interactions between Chinese landscape architects' ideas and projects over time.

Nevertheless, the cultural identity of Chinese *country parks* will not be accomplished in one stroke. Given two relationships with cities and urban nature, the parks can be analyzed as closely connected to Chinese urban spatial structure, particularly if the opposite relationship between the urban and rural areas can be greatly changed in the near future, especially with the rise of suburban space. They must be examined from a wider urban and spatial perspective, similar to two large-scale park conceptions in relation to their revised cities. In the consideration of the relationship with urban nature, the *country parks* may be developed by updated interpretations of the contemporary nature combined with the use of technologies for site reclamation. In terms of the dynamic ecological ideas implemented in the two large-scale parks as *eco-machines* for processing, Chinese *country parks* and ecological viewpoints still have a long way to go.

In conclusion, from the overall research on three large-scale park models, we expect to benefit from the critical, ongoing understanding of contemporary urban landscapes. In addition, we find that the regional cultural embedding is always bound to each park's identity. The deduced points of urban landscapes and large-scale parks in the comparative research may offer some rewarding experiences not only for China but also for further numerous related studies in other regions of the world.

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