A MINIMALIST APPROACH TO THE URBAN DESIGN OF OPEN SPACE: THE LANDSCAPE OF PETER WALKER

By

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To my family, thanks for the love and support throughout these years, without them I could not finish my study and this thesis so far away from home
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Since coming to popularity in the 1960s, the Minimalist garden has attracted widespread attention for its concise form and strong visual impact and has evoked fascination in both the academic and practical spheres.

The simple geometric forms carry sophisticated connotations, and the pure materials and colors are nonetheless full of mystery. These design approaches may show the influence of the modern landscape and Minimalist art, but the artistic conception is more closely related to French palace-style gardens and traditional Japanese gardens. The pursuit of rigorous simplification in both the physical and the spiritual creates an intense visual shock for the audience.

There is a clear and powerful relationship of influence between modern art and the development of modern landscape architecture, especially the Minimalist garden. The mixture of classical gardens with newer, Minimalist art demonstrated the feasibility and validity of this kind of combination and had a direct impact on the development of modern landscapes.
This thesis examines Peter Walker’s background and the changes in his design style, showing how he became a landscape designer and fell in love with minimalist gardens and displaying the close connection between Minimalism and Minimalist landscapes. Three of his most representative works, the National 9/11 Memorial, the Tanner Fountain, and Burnett Park, are selected as case studies to introduce the common elements of his work, such as striped pavement, manicured hedgerows, megaliths, and fountains; his main design methods, including straight and parallel lines, grids, and concentric circles; and his commonly used plant application forms, such as isolated trees, manicured lawns, and tree formations.

Understanding Minimalist gardens makes it easier for us to appreciate the charm of these designs and helps us see how to apply their elements and methods in future work.
CHAPTER 1
INTRODUCTION

Overview

It has grown harder for Americans to enjoy public space together in the city. The fast pace of life and population growth have separated people from the natural world.

As Kohn (2011) suggests that it may not be an accident that shopping mall becomes the only public place for Americans to meet and talk with strangers because of the privatization of public place.

Open space, as a recreation site for the public, has thus become the main place for citizens to approach each other and nature inside cities. In fact, it is hard to find places similar to public parks in letting strangers communicate without consideration of social status, income, or ethnicity (Thompson, 2002). However, what open space provides is not only a green recreation space but also a number of humanistic thoughts that can enrich visitors’ emotions as they appreciate them. But the design of open space is challenging and difficult. Not all designs have their expected effects. Creating the context of an open space and learning the principles hidden behind successful designs is difficult for beginners.

Peter Walker, one of the most successful and important landscape architects in the world, is the father of the Minimalist landscape. What made him famous worldwide, however, was not the grand projects he undertook in California but his small, Minimalist landscape works, which are distributed in streets, roofs, and gardens. His innovative design methods and the humanism expressed by his landscapes offer a good model for urban designers seeking to understand and design open spaces on the basis of the principles of the Minimalist landscape.
History and Development of Open Space

Ever since cities became the main population centers for human beings, places have been designed and built specifically for the public. As early as the fifth century B.C., the city of Miletus was designed by Hippodamus with an L-shaped square built as a place for the public to meet and talk together (Wu, 2010).

Because of population growth and land constraints, big cities have grown more compact and dense, but people have gotten tired of the crowded traffic and skyscrapers. More green and open spaces are needed by the public and the city. And there is far more empirical evidence of the positive effects of green areas. For example, Kuo and Sullivan (2001) already confirm in their study that a higher sense of security, fewer indecorums, and less violence are owing to a “greener” environment. For most people in big cities, public open spaces are an easy way, perhaps the only way, to approach nature in their own areas.

One goal of urban design projects is to balance limited resources to build peaceful places for citizens (Carmona, 2003). Modern landscape architecture, which derives from the U.S., brought remarkable vitality and creativity to the world of design. Many new forms and unexpected ideas were created by landscape architects, and hundreds of great open spaces were designed to serve the public. Minimalist landscape architecture, one of these new design styles, displays some unique characteristics when compared to the others.

Peter Walker and His Minimalist Landscape

Minimalist art became popular in America in the 1960s. Its paintings and sculptures demonstrate the style’s unique characteristics: avoiding traditional standards and creating a sense that the viewers themselves are part of the design. Many great
works were created on the basis of these ideas, and a new design style was established, the Minimalist landscape style.

Peter Walker, the father of the Minimalist garden, does provides unique visual experiences to visitors; more importantly, though, the design style of the Minimalist garden offers an attractive way to study design methods and materials. What made Peter Walker so successful was not his big projects with Sasaki, Walker and Associates, but his small works, such as green roofs, gardens, and street greening (Liu, 2000).

**Purpose of This Study**

The purpose of this study is to introduce minimalist landscapes and determine the design principles and methods behind them to help urban designers gain a better understanding of open space. Furthermore, it is good for designers, especially beginners, to learn the history of landscape architecture and how it is related to the development of open space. Finally, I would like to develop a better understanding of the design methods at work for my own design career.

**Organization of This Thesis**

This document is structured in six major sections: (a) an introduction giving the purpose of this paper; (b) definitions of *open space* and Minimalist art and an outline of the origin, development, and impact of Minimalist gardens; (c) a presentation of the methodology used in this research; (d) a detailed analysis of selected case studies; (e) a discussion of the findings and limitations of this paper and suggestions for future study; and (f) conclusions drawn from this study.
Figure 1-1. Study Design
Overview

In order to understand the relationship between open space and minimalist landscape architecture, we need to grasp the basic idea of open space and know the history of Minimalist landscape architecture. This historical review can be regarded as an approach to the nature of design. This literature review is thus divided into three parts: The first discusses what open space is, what function it has, and how it developed. The second looks at Minimalism and Peter Walker’s Minimalist landscapes. The third part examines case studies of several successful works of Minimalist landscape as open spaces.

What Is Open Space?

There is still no consensus in academia on what open space is. However, the investigation of this question can itself be regarded as a process of learning about and coming to understanding it. Kaplan (1985), in her study of how the environment is experienced, pointed out that experiencing a park can comfort the human mind, enhance the chance and quality of mediation, and breathe new life into the surrounding area. Ulrich (1981) also suggested that the experience of a park provided a sense of peacefulness and equilibrium and relieved stress. Also, Thompson (2002) emphasized that open space played an important role when considered about the expression of individual and cultural diversity.

People define open space differently according to their backgrounds and careers. For example, one famous Japanese architect regarded open space as a sort of extension of architecture (Ashihara, 1981). Many landscape architects, however, prefer
to see open space as a part of natural environment and greening systems (Waldheim, 2006).

These differences show the rich content and diversity of the open space. But we can gain a better and more complete understanding if we also consider some classical definitions. In *The Death and Life of Great American Cities*, Jane Jacobs (1961) disputed the idea that open spaces such as parks can simply breathe new life into declining communities. On the contrary, it was the people using these parks that determined whether they were successful or not. In a similar vein, Wendt (2009) said that parks have a positive impact on the city district and economic development. However, their attractions can only influence the nearby regions, which are similar to the neighborhoods.

On the other hand, Thompson (2002) argued that urban park can be regarded as a place where people meet nature and a product of the idea that building gardens in cities. Meanwhile, Chiesura (2003) suggested that there are several advantages for people to experience a park. For example, a good park may help people relax and relieve stress, provide a good place to mediate, as well as a sense of peacefulness. Peter Walker (1997) proposed that “Open space is a very complex medium to influence, subject as it is to the constant multiple changes of daily, seasonal, and maturing cycles and complicated by sound, odor, temperature, and precipitation” (Levy, Levy, & Walker, 1997, P. 23).

According to what I listed above, I would like to define the open space as a place where people can meet each other and connect with outside world, and provide a spiritual dimension which helps people reduce stress and enjoy life.
Six Urban Dimensions from Carmona

*Public Places, Urban Spaces* helped me reorganize the concepts and theories of urban design systematically and efficiently. The book completely explains the context and the present situation of urban design. It recommends the consideration of six dimensions in the analysis of the conditions and effects of designs. These are the morphological, perceptual, social, visual, functional, and temporal dimensions. Examination of them provides feedback and sound evidence that designers can use to judge the process and result of a project.

**Morphological Dimension**

Carmona (2003) focuses on addressing the importance of urban texture. He defines the morphological dimension as “[the] configuration of urban form and space, and the spatial patterns of infrastructure that support it.” While discussing the texture of urban place, he introduces and explains two classical cases. The first is the “traditional” space system. In this kind of place, space is always surrounded by buildings—in other words, the buildings create boundaries for the space. The old town of Paris is a great example of this, where the buildings around the Champs Elysees define the space well and create a sense of the elegant and gorgeous. On the other hand, because of the popularity of Modernism, many places have been designed with one huge building in a single block. Modern spaces have been created by this sort of building, and in these spaces, the buildings belong to the space but do not serve to define its boundaries. Thus, negative places can be created by the loss of urban texture due to large-scale buildings.

This does not mean that modern urban spaces are always bad and negative. Modern spaces satisfy the demand for efficiency of transportation very well. Wide roads
increase the speed of automobiles and other kinds of ground transportation. However, one significant shortcoming is that designers always ignored the importance of users. People, their main users, are overlooked by these modern places, which is the main reason they are often negative places. By contrast, traditional spaces pay more attention to pedestrians and paths for walking. For example, the streets in the old city of Rome show an affinity to pedestrians. In a word, the form of the city should be a combination of these two systems of space in order to create a sense of humanity and be convenient for both pedestrians and automobiles.

**Perceptual Dimension**

Carmona remarks of the perceptual dimension that “awareness and appreciation of environmental perception and, in particular, the perception and experience of ‘place’ is an essential dimension of urban design” (Carmona, 2003, P. 87). The perceptual dimension has three parts that should be explained. The first is environmental perception. As a part of Mother Nature, the environment is something people interact with all the time. By observing, hearing, smelling, and touching, human beings sense the outside world and take in information about it. No matter what you do or where you are, your process of gathering information and reacting to your environment does not stop. The second is the “place image.” This is an essential product and factor of the experience of a “place.” The place image is very similar to Lynch’s (1960) *The Image of the City*. This kind of image can be completely different even among a group of people visiting the same site at the same time because what they each create and value in their own minds is based on their individual experiences. The final part is related to the invention of place distinctiveness and the creation of identity. To make a place different from others, one needs to pay attention to the invention of forms and the cultivation of
local awareness. For instance, the conservation and redevelopment of local historical sites improves the cohesion and identity of their areas.

**Social Dimension**

In this part, Carmona discusses the relationship between urban space and society. It is obvious that, as a part of society, urban space must have a social aspect; on the other hand, society has a deep and direct effect on the design of its urban spaces. To fully grasp the relationship between the two, some other key aspects need to be understood. First, the relationship between spaces and people, as their main users, is a great model for studying the influence of society on spaces. For instance, as we all know, the living environment has a direct and important influence on the development of personality traits. At the same time, the assortment of people who use them also influences the quality of spaces, for example in slums. Second, the public realm has six key aspects: the relationship between people and space; the concept of the public realm; neighborhoods; safety and security; the control of public space; and equitable environments.

**Visual Dimension**

Carmona (2003) suggests in this chapter that people can decide what kinds of activities to do, such as seeing a movie, listening to a concert, or playing video games, but they cannot choose whether to perceive their building environments. The visual-aesthetic dimension, which is derived from the combination of the visual and spatial features, can be divided into three main parts.

The first part is related to aesthetic preferences. As these places function as an inescapable art form for the public, the visual experience of them has a huge influence on people’s lives; visual aesthetic appreciation can be seen as a case of personal
perception and selection. In the second part, positive and negative spaces for visual aesthetic appreciation are introduced and further explained. For example, Carmona (2003) holds that one significant discrimination between positive and negative place is the clearly boundary. For example, the boundary of positive space is always recognizable but for negative space, lacking edges makes it difficult to distinguish it from surrounding areas. In the third, some classical design principles about how to create a positive place are discussed. For example, principles from Camillo Sitte show some of the essential qualities of a positive space. The sense of enclosure is the key point addressed by the other elements, such as the shape of the place and the locations of monuments (George, 1986).

**Functional Dimension**

In Carmona’s view, the functional dimension “relates to how places work and how urban designers can make ‘better’ places or, more precisely, increase the potential for them to develop” (Carmona, 2003, P. 165). To make places work better for people, one needs to pay attention to the details in the design process. For example, caring for pedestrians is a fundamental function of a good place because it offers users the best way to experience the place and join in its activities. Healthy environments and convenient facilities for disabled people and are thus two of the main requirements for urban spaces. A good design requires a considerable infrastructure plan to support the demands of its users.

**Temporal Dimension**

The temporal dimension, the last of Carmona’s six, is about the role of time in design. As time passes, places are built and used by people and more and more activities are carried on in them, leading to changes. Thus the city should be seen as
not as a three-dimensional object but as a four-dimensional one. Because of the different uses and time demands of different activities, environments change over time. To satisfy these demands, designers need a complete understanding of the users’ customs, time cycles, and needs. And though time is the best test of a place, this does not mean that the changes that occur to a place are all either good or useless. Sometimes conservation plays an essential role in saving the identity and stability of a place. At other times, changes based on better-developed plans should be accepted; for example, rebuilding an area with new materials and styles can validate and add new energy to a declining community.

LaGro Site Analysis Methods

James A. LaGro wrote the textbook *Site Analysis: Informing Context-Sensitive and Sustainable Site Planning and Design* in 2001. He broke down the process of site analysis into consideration of four main contexts: the physiographic context, the biological context, the land use, infrastructure, and regulatory context, and the cultural and historical context. These contexts contain most of the information needed for analyzing the suitability of a site and are the proper approach to case studies.

Physiographic Context

One fundamental but vital target in site planning is to have a complete and deep understanding of the site and its surroundings. This makes certain basic data, such as size, elevation, and scope, more important. Base maps, a temporary but fundamental element of the process, always appear on designers’ table first. A good base map not only clearly shows the boundaries and surroundings of the site, it provides a general estimation of scale. Parcel-sized pieces of information, such as the site’s size, shape, topography, geology, and soil, are collected and analyzed.
Biological Context

As the population grows, more and more forests are destroyed and for new roads and houses. Although these new constructions satisfy human demands, they create an insurmountable barriers to the survival of the animals that used to live in those forests. According to the U.S. Geological Survey, “about 10,000 miles of paved roads and 1 million new homes were built annually” (LaGro, 2001, P. 112). This is a huge disruption to the lives and environments of animals, and it gives new significance to analyzing the sustainability of site designs. For example, nature’s infrastructure—water, soil, air, and so on—must figure in the analysis. The conservation of wetlands and the protection of wildlife become rules for any kind of design today.

Land Use, Infrastructure and Regulatory Context

Future land use has a direct influence on the development of a site. The land use code of the site can even determining the design direction. In this stage, the type and intensity of the site’s prior land use are first analyzed to determine the proper use of the land. For example, the floor–area ratio (FAR) is a critical factor that has a direct influence on the intensity and sense of the area. A following analysis of property value and land use regulations then helps the designers with the site planning. Analysis of the most important component of a city, the infrastructure, which includes transportation, utilities, and so on, will also make a big contribution to site-planning decisions.

Cultural and Historic Context

“In the end, our society will be defined not only by what we create, but by what we refuse to destroy” (Sawhill, J. from LaGro’s site analysis, 2001, P. 71). To create or strengthen a sense of place, cultural and historical factors should be considered before the implementation of the design. For example, shared building styles and other
neighborhood characters can help people recall the memory of the site. Historic resources and demographic data can also reveal a site’s history and users. The process of collecting data and information about cultural and historic context is a great way for designers to find inspirations and opportunities for creating very “local” designs.

**French Palace-style Garden**

French Palace-style garden, also been called as French classical garden, was one of the top four popular landscape styles in the world. In general, the gardens’ forms most applied geometric figures, such as triangle, rectangle and square. Palaces often were regard as the main core in the landscape design, then roads or greens were build or clipped as external radiation axis. Fountains were arranged at the sides of axis, and trees were planted as lines (Liu, 2009).

Le Notre, who designed the Versailles, Vaum-le-vicomte and Sceaux, is an important representative of French Palace-style Garden. From his works, it is not hard to find that the French gardens preserved some features of Italian Renaissance gardens. For example, both of them emphasized the application of axis, manicured plants and fountains. However, compared with Italian gardens, the organizations and methods of French gardens were more fresh, direct and magnificent. Another crucial characteristic of French gardens was the strong geometric space order. By carefully using geometric forms, buildings and forests were connected through axis. Moreover, between the forests and landscapes, some small but different styled gardens were established and arranged (Wang & Lin, 2002).

**Minimalist Art**

The design of minimalist landscapes was directly influenced by minimalist art, which means it is essential to understanding minimalist art. Great minimalist artworks
can be also inspire designers and help us understand the design methods and inside emotions of the landscape.

**History and Development of Minimalism**

Minimalism, which emerged in the 1950s, was also known as Minimal Art, literalist art, cool art, and ABC art. In the 1960s, its simple expression and use of particular materials attracted a lot of young artists who explored its applications further. Since then, minimalist art has become popular and has shown its vitality in many famous gallery and museums in the Americas. As its slogan, “Make it pure and simple” (VanEenoo, 2011, P. 8), indicated, this art seeks to predigest the application of complex materials, shapes, and colors.

The definitions of Minimalism are complex but similar. Porwal once wrote, “Minimal Art is a school of abstract painting and sculpture where any kind of personal expression is kept to a minimum extinct, in order to give the work a completely literal presence” (Porwal, T., 2014, P. 38). As a result, the exceeding briefness of forms and lack of expressive details become the main feature for most works of Minimal Art. Slobodkin (1986) suggested that the Minimalism may be seen as a process that artists select the most concise method to deal with problems and create art works. Moreover, the method always can be tracked back to an existing professional field.

Minimalist Art does this by using limited materials to achieve an expected effect. Many talented young artists were inspired by geometric forms and then created and explained their own works with Minimalism. Moreover, the method of expression and the ways of appreciating Minimalist Art are quite different from other kinds of art. What Minimalists care most about is not self-expression but the medium and materials used
in their works. Minimalist painter Frank Stella once said, “What you see is what you see” (Porwal, 2014, P. 38).

To remove personal characteristics from the artwork, Minimalist artists try to take advantage of uncomplicated and geometric forms and industrial raw materials (Porwal, 2014). For example, limited, pure colors and simplified geometric shapes are the most common ways for the artists to create their works (VanEenoo, 2011). This does not mean that Minimalism is the same as other styles of art, such as Abstract Expressionism, that use similar forms in their paintings. In fact, Minimalism can be seen as the opposite of Abstract Expressionism. Some of the most influential Minimalists, such as the poet William Carlos Williams and Frederick Law Olmsted, the father of landscapes, did not agree that the purpose of their artworks was self-expression, which makes it completely unlike Abstract Expressionism. The features of Minimalism can be synthesized as geometric forms, which contain many metaphors and much repetition, heterogeneity, and raw and industrial materials.

In addition, the famous Minimalist artist Donald Judd once said, “It is not necessary for a work to have lots of things to look at, to compare, to analyze, one by one, and to contemplate. The thing as a whole, and its qualities as a whole, is what is interesting” (VanEenoo, 2011, P. 1). As Judd’s words suggest, the core of Minimalist Art is to show an entirety to the viewers but not surprise them with cool colors or weird appearances. Also, the famous sculptor Sol LeWitt said, “The most interesting characteristic of the cube is that it is relatively uninteresting” (Porwal, 2014, P. 6). This reiterates that the main point of the Minimalist is to express the medium that was used
and the art work itself but no relation to other kinds of art, and not to be regarded as a representation of other things.

What is more interesting is that when people do appreciate Minimalist artworks, they always suppose that the art work has a deep relationship with other kinds of art, like abstract or super-realistic art (Slobodkin, 1986). Both of those share some aspects of artistic expression, but all three have unique features that make them independent and recognizable, especially Minimalist Art. The simple form and deliberate lack of components provide viewers with a better image space and a distance from other thoughts in their minds. One major focus of Minimalist Art is to help viewers focus on the objects that were used in the work (VanEenoo, 2011).

**Minimalist Painting and Sculpture**

Minimalist painting and sculpture are the two main components of Minimalist art. Its paintings generally share some common features: accurate, hard-edged, geometric forms and rigid planes of color pigment. The painters pursue a kind of effect that relates their work or created objects to presence, which can be regarded as basic physical appearance (Porwal, 2014). For example, Frank Stella’s “Harran II” explains the stylistic features of the Art through its application of cubes and quadrants, industrial, solid colors, and simple and direct geometric combination. Moreover, in the work as a whole, the duplication and multiplication of all these factors reveal the work's nonobjective and independent features (VanEenoo, 2011).

As for Sculpture, the grid-based compositions were a big surprise for the art world. The Minimalist sculptors were keen on using industrial materials. Prefabricated and mass-produced materials were also taken full advantage of in their artworks. For example, materials like fiberglass, Plexiglas, plastic, and sheet materials were used
frequently and shown to the public with no decoration or with strong industrial colors (Porwal, 2014).

While many claim that Minimalism is a movement marked specifically by geometric representations, it now extends far beyond this relatively narrow constraint (VanEenoo, 2011).

**The Influence of Minimalism**

“Minimalism had widened its influence with the Bauhaus architecture, design, and the fine arts and craft movement in Germany in the nineteen-twenties” (VanEenoo, 2011, P. 2). The leader of the Bauhaus architectural movement, Walter Gropius, brought Bauhaus to Harvard and became the dean of the graduate school of design. As a result, Minimalism expanded its influence in America and gave young American designers the chance to understand its content, both on its own and in combination with its design methods.

**Minimalist Architecture**

The emergence of Minimalism was prevalent not only in art; its influence soon expanded to other fields, such as music, technology and engineering. Architecture was also influenced by the ideology, and a new style of design called Minimalist Architecture was established and became popular.

The seeds of Minimalism appeared in architecture even before the term was coined. For example, the famous architect Ludwig Mies van der Rohe proposed that “less is more” to explain the creative and concise ideas behind his buildings. The design works of another famous architect, Louis Kahn, also showed features of Minimalism. For the Minimalist architects, the freedom of design was one of the most important factors in the final effect of the building. If designers consider too many influential
elements, their designs can face more challenges and obstructions, but if they do not consider power, their works have little meaning for others (Malan & Bredemeyer, 2002). To design a building that satisfies all the requirements of Minimalist architecture, designers have to set many architectural goals to ensure that all parts of the building follow the original ideas and decisions. In other words, the degree of freedom given to the Minimalist architect sometimes decides whether the work is successful or not.

One significant feature of Minimalist architecture is “the void.” According to Robert Wilson (2002), a void can be explained as a demand to “listen to the figures.” A great characteristic of Minimalist architecture is that its buildings have a tendency to “listen.” This ability to listen is not a vague concept; it is based on the relationship with the entirety and is focused on itself and what it represents other than the whole universe. By paying more attention to the background of the site and the materials used, these architects created a comfortable and unrestricted way for viewers to discover the truth and nature of humanity contained in the simplest shapes and items. What was pursued by the Minimalist architects was a free process of artistic creation and a greater number of possibilities for connecting the work of art to its viewers. The nonexistent magically creates a different bridge between audience members and the original images that they receive, and then increases the varieties and possibilities for buildings (Franco, 2002). The simplicity of the architecture demonstrates new connotations that exceed the purely aesthetic but can be regarded as a kind of reorganization in order to find out some inner quality or mental perception of nature and truth.

**Minimalist Landscape Architecture**

The original aim of landscape architecture was to build humanity’s own Garden of Eden. Modern landscape is generally thought to have originated in America in the
nineteenth century. Since then, many valid and creative design styles have been established and developed that not only satisfied the demands of the period but demonstrated their own unique charms and the creative, independent minds of landscape architects. It should be appreciated that the great efforts of earlier people have made the living environment much better than in older times. For example, the establishment of greenbelts ameliorated both the expansion of industry and the vagueness of city boundaries. During this period, many landmarks were designed and built, which brought further renown to many landscape designers, such as Frederick Law Olmsted, Lawrence Halprin, Hideo Sasaki, and Peter Walker, who was honored by the International Federation of Landscape Architects with the Sir Geoffrey Jellicoe Award, the highest honor to a landscape architect. As the father of Minimalist landscapes, Peter Walker uses concise but mysterious design methods that have a strong visual impact on his audience. Minimalist landscape architecture has since grown mature and successful, even becoming popular around the world.

The Seed of Minimalist Landscape Architecture

After hundreds of year’s exploration and development, landscaping has become an indispensable part of the construction of human living environments. In the history of landscape architecture, four types of gardens are recognized and famous all over the world: the English landscape garden, the French palace-style garden, the Italian terrace garden, and the Chinese classic garden. These four types of garden together display the diversity and vitality of the subject, and more and more design styles have come to be inspired by them. The Minimalist landscape was inspired by the features and ideas of Minimalist art and the French palace-style garden and eventually became a new direction for the design of landscapes.
It is more remarkable that the idea of Minimalism ever occurred than that the term was developed. As with Minimalist architecture, the design of Minimalist landscapes was greatly affected by the traditional ideas of the Japanese landscape. Peter Walker has suggested that the traditional Japanese landscape and seventeenth-century French gardens already contained the germ of Modernism, which stressed the importance of conciseness in the design and construction of gardens (Levy, Levy, & Walker, 1997). And as early as the twelfth century, Zen thought was introduced to Japan, where it not only had a big influence on philosophy, but changed design and the way gardens were appreciated. Zen thought advocated excluding the bother of the outside world and emphasized inner awakening, a view that was well displayed in the traditional Japanese garden. By using stones to represent mountains and sand to represent water, the Japanese garden fully demonstrated the charm of Minimalism (Feng, 2008). On the other hand, under the influence of traditional Chinese gardens, the realization of the artistic conception was seen as one of the paramount factors in reviewing a garden. This kind of artistic creativity can break through the boundary between the garden and outside nature, leaving more space for audiences to think and imagine. Finally, the French palace-style garden provided valuable experience to the development of the Minimalist landscape, as it included the application of geometric forms and colors. In the seventeenth century, untrimmed and asymmetrical gardens were considered incomplete and defective. In traditional French gardens, the natural state of plants was not taken into consideration; designers treated plants as homogeneous materials with various colors and textures to be used as the components of a constructed object or trimmed into geometric shapes, such as circles, cones, and
rectangles. The ideas of the French garden had a great influence on Minimalist landscapes but also left some unavoidable flaws in it (Tian, 2008).

**Peter Walker and Minimalist Landscape Architecture**

The career path of Peter Walker is a remarkable and dramatic one. As a student of journalism, his original dream was to become an editor, and he concentrated on producing magazines and newspapers. To improve his editing skills, he attended a course on landscape design, which brought him to a new world and changed his entire life—he later said that he never thought he would like being a landscape architect. The course was divided into three parts. The first part was about art, the second part introduced landscape architecture and design methods, and the last focused on history and philosophy (Nemetschek Vectoworks, Inc., 2012). After finishing the course, Peter Walker had found his true love: landscape architecture.

While studying at UC Berkeley, Peter Walker had the opportunity to work for the influential landscape architect Lawrence Halprin. Halprin’s design style had a huge impact on Walker’s own design values. Halprin created a wonderful series of “California Gardens” early in his career. The design methods he used throughout them, such as the application of Surrealism, Cubism, and Structuralism, the use of large areas of pavement, clear functional zoning, and simple but romantic plants, nourished Walker’s ideas and later Minimalist landscapes (Walker & Louise, 1994).

After obtaining a bachelor of science in landscape architecture, Walker went to Harvard to earn a master’s degree, and there he met his teacher and lifelong friend Hideo Sasaki. At Harvard, Walker worked part-time for Sasaki. In 1957, the two started their own firm, SWA, and two years later created a West Coast office under Walker’s leadership. Walker’s collaboration with Sasaki led to the peak of his professional life. He
designed numerous important and challenging works during this period, earning great honors and numerous awards for himself and SWA. At this time, Walker already showed mature skill and the abilities to control large scale landscapes and “California Gardens.”

After working as chairman for more than ten years, Walker finally left SWA and founded Peter Walker and Partners. The small size of this firm, which accepted only a few projects a year, let him know about and control every step of the design process. However, Walker has said that lack of control over the design process was not his main reason for leaving SWA.

In 2005, Peter Walker was honored with the Sir Geoffrey Jellicoe Award, the highest award in landscape architecture. During his professional life, he received more than seventy awards from both national and international sources (Nemetschek Vectoworks, Inc., 2012). However, it is important to address the fact that the design works that made him a world-famous landscape architect are not the large-scale projects he worked on at SWA but a number of small projects, such as rooftop gardens, courts, and street greenings (Liu, 2000). These were also the main reason he left SWA. After more than twenty years in his field, Walker had already successfully taken charge of many urban zoning plans, city parks, and greenings. However, these landscapes could not stimulate his interest in Minimalism, and it was this that finally led him to depart.

In 1976, Walker worked in the graduate school of design at Harvard, where he studied the connection between Minimalist art and landscapes. When he founded PWP and began developing the Minimalist landscapes in the real world, people were shocked
by the special forms and the sense of mysterious. On the one hand, the application of geometric forms, raw materials, and pure industrial colors astonished viewers and developers. On the other, people were curious and confused about whether the new work was landscape architecture or not. Levy (1997) has already answered this question in the foreword to *Minimalist Gardens*: “Peter Walker’s work is a hybrid of movements and styles, an investigation of the reservoir of essential qualities in the art of the century and his time that he plumbs for revelation” (Levy, Levy, & Walker, 1997, P. 7).

According to Walker, one of reasons he loved Minimalism was that it provides a direct and strong way for audiences to see natural processes. For example, the natural cycle of the growing and fading of plants has a unique attraction because the laws of nature are involved in the process and inspire deep thoughts in the audience. As he put it, “One of our principles is to try to use plant materials in a way to show them off” (Nemetschek Vectoworks, Inc., 2012, P. 3).

Walker (1997) also addressed the relationship between arts and landscapes and the process of formation of the minimalist landscape. In the beginning, he said, he only considered himself a collector whose goal was to seek beauty and visual energy from the outside, especially in the arts. However, a series of art works that included Carl Andre’s *Secant* and *Lead-Magnesium Plain* (Levy, Levy, & Walker, 1997) encouraged him to think about the cohesion among arts and landscapes. Inspired by French gardens, especially the great works from Le Notre, he developed a bold idea for combining historic formal gardens, Minimalist art, and his own ideas about landscape architecture to create a new design style, which came to be called Minimalist Gardens.
The Impact of Minimalist Landscape on Modern Landscape Architecture

The popularity of Minimalist landscapes confirmed again that the development of modern art had a profound impact on design methods. It has been a deep-rooted part of people’s daily lives since it became prevalent and well-known among the public in the 1960s. The influence of Minimalist landscapes appeared first in the acceptance of its attitude and culture. Minimalist Art takes a direct and strong attitude toward traditional dogmas. The application of new, mental materials and the quest for extreme simplification clearly suggest the spirit of innovation and revolution (Tian, 2008). For modern landscape architecture, excessive consideration of function, safety, and cultural background had already become constraints on the process of designing. The final plan is always a product of compromises. The bold attempts of Minimalist garden design was to make up the shortfalls and bring new artistic culture and inspiration to the modern landscape. Thanks to the Minimalist gardens, modern landscapes have become more distinctive and creative, and many fresh and bold ideas have appeared in these new works.

Second, with the expansion of their influence, the novel ideas of Minimalist gardens came to be accepted by designers and enriched the design practices of modern landscapes. For example, elements like simple geometric forms and the application of multiple new materials and pure colors were adopted by other designers from Minimalist gardens.

What is more, the success of Minimalist gardens encouraged more people to pay attention to the influence of modern art and the possibility of combinations with other disciplines. The famous landscape architect and former artist Martha Schwartz is a
good example. After learning from Minimalism and Minimalist landscapes, she displayed a series of amazing gardens, including the famous Bagel Garden.

Figure 2-1. “Harran II”, by Frank Stella (1967). (Image from Tina Porwal) Edit by author.

Figure 2-2. “Equivalent VIII”, by Carl Andre (1966). (Image from Tina Porwal) Edit by author.
CHAPTER 3
METHODOLOGY

Overview

This chapter summarizes the methodology of this work and the reasons for it.
This research uses case studies as its approach to discovering the mysteries and
design methods of the Minimalist landscape. The three cases selected show enormous
features and design ideas hidden behind the works. Through consideration of the
different locations and conditions faced by the designers, these cases will demonstrate
the vitality and charm of Minimalist landscapes.

Literature Review

Inspired by Peter Walker’s “Invisible Gardens” (1994), the research began with a
literature review of open space and methods of analysis. This includes Carmona’s
Peter Walker’s (1997) “Minimalist Gardens,” which provide cases for study and analysis.
All of these writers helped clear the path toward analyzing open space and Minimalist
landscapes and displaying the advantages and disadvantages of the design method.
Other resources are reviewed as well: zoning codes, soils reports, and interviews with
Peter Walker, thesis papers, and journal articles related to open space and Minimalist
landscape.

Case Study

Case studies, one of most common and efficient ways of doing social science
research, is often under estimated by both experts and audiences (Yin, R., 2009). To
achieve the goal of a case study, a complete logic and data collection seems to more
important than other factors, which is also ignored by many authors. As a result, audiences are confused and do not get integral feedback from reading case studies.

For this study, three design works from Peter Walker are analyzed. There are five reasons these particular pieces were chosen. First of all, after reviewing more than 15 works from Peter Walker, some common elements and design methods were discovered and summarized. However, due to the limited time and ability, only three projects could be analyzed in detail. As a result, one reason that picked these three projects as case study was because they contained most of the elements and methods summarized before.

Secondly, as he is the father of Minimalist landscape design, Peter Walker’s designs represent the most important and comprehensive features and values of the Minimalist landscape (Liu, 2000), therefore, no Martha Schwartz’s and Peter Latz’s work was selected.

Thirdly, these three designs—The National 9/11 Memorial, Burnett Park, and Tanner Fountain—are among his most famous and influential designs. They all have some of the common contents and some of the different design methods and elements that have been used in Minimalist Landscapes.

Fourth, considered as kinds of landscape, each of the three has unique characteristics as well. For example, the National 9/11 Memorial is the most recently designed (it opened on September 11, 2011) Minimalist landscape by Peter Walker, and functions as a memorial square. Burnett Park is one of the most mature and successful design works from the early period of Minimalist landscape design, and effectively displays the unique design methods and the combination of Minimalist art
and landscapes. Tanner Fountain’s special location, on the Harvard University campus, and its magic visual effects make it an essential case in the study of Minimalist landscape.

Finally, landscape designs of different sizes, large, medium, and small cases, are included in the group. Meanwhile, when considered about the importance or influence in Minimalist Landscape, The most influential work is the 9/11 National Memorial, and next is the Burnett Park, then is the Tanner Fountain. As a result, the case studies were presented in this order. These three cases thus satisfy the requirements of a case study approach and also represent the charm and the features of the Minimalist landscape well.

**Research Question**

Both qualitative and quantitative methods were used to analyze these case studies. Mapping and statistical data will be used to support the analysis. The final results were development and design guidelines for open spaces and Minimalist landscape. The research question is:

What kinds of elements and design methods are applied into the practice of Minimalist Landscapes?

The literature review introduced the fundamental knowledge about the Minimalist gardens as well as the two main analysis methods. The comprehension of Minimalist arts and French palace-style help audiences better appreciate Minimalist gardens’ elements as well as planting methods. Carmona’s urban dimension and LaGro’s site analysis methods provides a guideline to study the three cases. For example, functional dimension is applied in the Burnett Park to analyze the road network and components. Also, temporal dimension is used in the Tanner Fountain to emphasize the variety of
mist with the seasonal changes. Additionally, the size of site, plants, and cultural context are introduced in the thesis because of the analysis of physiographic and biological contexts from LaGro’s site analysis methods.
Overview

A building cannot be assumed anywhere except where it was. It is impossible to understand and analyze a project without data and background knowledge. To make a logical and complete case study, the standards and rules from LaGro’s “Site Analysis” and Carmona’s “Urban Places, Public Spaces” will be applied in this thesis. After reviewing the La Gro’s four contexts and Carmona’s six dimensions, the study focuses mainly on four aspects. The first part discusses background knowledge of the site, including the goals and causes of the project. The second part discusses the collection of physiographic context information, such as parcel size and shape, topography, soils, and the biological context. The third part introduces details of design that contains the elements used in the projects and renderings. Finally, the fourth part integrates the above information and summarizes what has been learned from the project.

Case Study 1 – The National 9/11 Memorial, 2011, New York City, NY

Background Knowledge

September 11, 2001, was a terrible and unforgettable day for the United States and the world. The terrorist attacks on that day led to more than two thousand people losing their lives. Because of the collapse of the World Trade Center, the destruction of nearby infrastructure, and the toxic substances spread through the air, the government had to close a number of operations in Lower Manhattan for several days, including Wall Street. Global markets fell into chaos, and many activities, meetings, and exhibitions were canceled, which led to losses of more than 10 billion dollars.
The catastrophe left behind not only intense grief but great destruction to the surrounding environment, included roads, buildings, and other infrastructures. To rebuild the area, New York held a competition in 2003 to listen to designers and voices from outside. The competition addressed the preservation of the sites and the meaning of the memorial. Peter Walker and Michael Arad, the architect who designed the 9/11 Memorial Museum, won the competition and successfully rebuilt the area with a great Minimalist landscape, and the 9/11 Memorial became one of the most successful Minimalist designs in the world.

**Physiographic and Biological Context**

The 9/11 Memorial is located in Lower Manhattan, which also the world’s financial center. Before the terrorist attacks, the World Trade Center was a landmark building and the peak of the city’s skyline. Afterward, designers reorganized the locations and distributions of the new buildings, as shown in the picture. The site is bounded by Vesey Street on the north and on the south by Albany Street; West Street and Church Street are on the west and east sides.

The area is approximately 8 acres and occupies about half of the former World Trade Center grounds. The shape for the site is approximately a parallelogram. There are two large pools occupying the positions of the old buildings. Moreover, each of these is one acre in area and exactly square.

According to “Census Tract-Based Soils Types in Manhattan Maps,” the soil around the site is soft and suitable for growing plants. New York has a humid subtropical climate: its summers are hot and rainy, its winters mild and dry, and the annual precipitation balanced.
Swamp white oaks were selected by the design team on the advice of arborist Paul Cowie. These oaks are more disease resistant than with other kinds, such as red or pin oaks. Moreover, they give people a sense of solemnity, strength, and power. They were also chosen for the color of their leaves, which change from amber to a golden brown, and their durability.

It was difficult to select and transplant these trees because of the strict standards of the designers. All the trees were taken from nearby regions and were similar in size and shape, and became the sturdy columns of the Memorial. To improve their chances of survival, the trees were transplanted into boxes and transported to New Jersey to adjust to the local climate several years before the project was completed.

Design Details

The design contains two one-acre square fountains at the bases of the original World Trade Center towers. Because of the great number and diversity of the victims and large area destroyed in the attacks, the designers used a symbolic design that could be understood by as many audiences as possible. Their design also had to meet the requirements from the theme of “Reflecting Absence.” Walker initially decided to use hard pavement to build an integral square, but this was denied by the city because the surrounding area lacked greenery. As a result, 416 white oak trees were planted on the site to provide a dense forest for visitors who were bored with cold, rigid skyscrapers. The oak trees also offered the more important function of changing with the seasons. In spring, their rebirth and growth show the cycle of nature and the force of new life; in summer, their leaves block out the sun and create a rich and varied relationship between sunlight and shadow; in fall, the leaves change from amber to golden brown and even pink, reminding people of the changes of the seasons; and in winter, the
shadows of the bare branches create a sense of loneliness and gravity. Inspired by Michael Heizer’s work *North, East, South, West*, two large voids were retained to represent visible absence and, eventually, to become a kind of eternal memory of September 11.

When walking away from the site boundary defined by the forest, audiences will see the two voids and hear the voices of thundering waterfalls. The names of all the victims have been engraved on bronze parapets, which give visitors a place to recall the victims and remind themselves of the preciousness of peace. As they retreat from the painful memories, people will be comforted by the placatory natural forest, which is full of positive energy. Although the plane of the entire park can be seen through the oaks, the depth and size of the site were extended to accommodate the numerous trunks. The forest itself greatly eased the regular but rigid life of the surrounding buildings and even the city as a whole. Stones, pavement, lawns, and steel gratings were assembled to compose the flat plane and redouble the expression of the horizontal surfaces. By combining graphic techniques and technical solutions, Walker in the end provided a perceptual garden to all visitors.

The waterfalls designed by landscape architect Dan Euser, who is famous for using water, were established as a weir within 30 feet of the void. The tapered shaped saves a lot of energy and provides a strong visual effect. What is more, thanks to the night lighting design, the beautiful scene is visible day and night. The oaks on the square seem like a natural forest, but when visitors find that they are all aligned with each other, they may realize that designer intended the trees to form arching corridors like those at the bottoms of the original buildings. The grassy space under the forest is
also great place for people to escape the hustle and bustle of the city. Thus even in a memorial designed for ceremonies, soft green space is offered to people’s daily lives. Various smaller spaces are created by the detailed designs, such as the distances between trees and the rhythm of the pavements and benches. The ground cover beds, chosen after a careful study of the size of the pavement, include 12” x 60” pavers and 3” x 15” cobbles, which enrich the diversity of the flat plane when combined with the shadows of various shapes and distances.

Summary

Walker and his firm established the solemn memorial as a luxuriant park which further provided a place for visitors to recall and meditate. At the same time, for the greening system in Lower Manhattan, the memorial severed as an urban open space to meet the demands from nearby dense communities.

For this case, methods from both urban dimensions and site contexts were applied. For example, Walker first decided to build the site as a square but not a park, but after carefully review the land use context and functional dimension, he changed the idea to build a green space. Another good example was the selection of plants. Considering about biological context and temporal factors, the design team finally chose the white oak because of the better disease resistant ability and the seasonal changes of colors of leaf. However, to be honest, it is easy to find out that the design team paid more attention to the creation of visual impact and spiritual life. The analysis of perceptual and visual dimensions from Carmona was exactly satisfied the requirements of the site. As a result, Carmona’s urban dimension was more suitable than LaGro’s site analysis contexts.
Moreover, elements such as fountains, stripe-like pavement, lawns, and stones are applied in the project and play important roles in expressing the ideas of the designers, especially the voids with their fountain, which directly remind people what happened in that place and what we need to do. The selection of cool colors shows respects for the victims and is more likely to help people mediate.

**Case Study 2 – The Burnett Park, 1983, Fort Worth, TX**

**Background Knowledge**

In 1983, Peter Walker was in charge of the rehabilitation of an urban park in Fort Worth, Texas, which was designed by George Kessler in 1919. After carefully reviewing the surrounding environment and consideration about functions, Walker proposed a detailed, multidimensional plan. The original goal of the park is to build a green space for people to meet the nature and satisfy the daily demands from nearby communities. As a result, elements like walkways for pedestrian, solid pavements for playing and relaxing, and lights system for night safety, are required by the project and developers. With the rational using of trees, shrubs, grass and water, Walker placed a paradise in the real world. Moreover, in 2010, the park was redesigned and more places and equipment for children were added into the plan (Levy, Levy, & Walker, 1997).

**Physiographic and Biological Context**

The shape of the site is a standard rectangle which includes twenty four small squares. On the north side is the West 7th Street, the east side is Lamar Street, and the south side is West 10th Street. The total area is about 3 acres and the plant species that used in the park are oak, magnolia and crape myrtle.
Design Details

Inspired by many minimalist artists, such as Robert Moriss, Robert Smithson and Sol LeWitt, Walker always proposed the idea of antithesis with the flexible application of grid. Through employing the form of grid, Walker successfully defined a flat plane as well as suggested the importance of detachment among industrial systems. At the same time, one pragmatic function of grid is to organize audiences’ sights from different orientations.

The Burnett Park was made up with four different functions, different texture layers. Except the first vegetation layer, the second layer was a dual road system which composed with orthogonal and diagonal lines. Moreover, the beautiful pink granite was paved in the intersection area. The complete road network assured that people can enter the park from any direction. Lawn becomes the third layer, which was not only the grounding of the area and meet the demand for green, but also distinguished the surrounding buildings and the road environment. What is more, the pattern showed on the surface of the pavement increased the comparison between hard and soft environment, and also addressed the contrast between cool and bustle. The fourth layer was further aggravated this kind of contrast. A continuous series of square small pools neatly arranged, connected and finally, composed a big rectangle. The application of water increased the vitality and spirituality of the park, while the multiple intercourse between the neat and orderly rectangular pools and granite pavement also gave a repeated rhyme and a sense of multilevel.

The most successful aspect of this design is the application of mysterious light. The lighting system was composed with three parts: the square ground lights which are embedded in the granite pavement; the lights which are mounted on the trees; and a
serious five feet high lights on the fountains. These small fountain lights are made of optical fibers which are similar to a candle in the night, and more importantly, provide a sense of dream and sacred.

**Summary**

The design of Burnett Park fully balanced the requirements from both individual and the public. By addressing the variety of users, the park designed different spaces to meet the various demands from visitors.

The analysis of Burnett Park also utilized the two methods from Carmona and LaGro. For example, the analysis of road system and functional layers can be seen as the application of visual and functional dimensions. Moreover, the physiographic and biological contexts were also introduced and analyzed, which includes the site size, base map and plant species.

What is more, it is not hard to discover that a lot of minimalist elements and languages are used, such as straight line, parallel line, grid, isolated planting, manicured lawn and hedgerow. By minimalist art form and a unified function, Burnett Park creates a new functional and spatial experience to audiences. Additionally, communications between human to human and human to environment were established due to the diversity of space and opportunities for exchange. From this view, it seemed that the park provided individual functional space for people with a positive way, which increased the diversity of space and layers of landscape.

**Case Study 3 – The Tanner Fountain, 1984, Boston, MA**

**Background Knowledge**

After leaving SWA, Peter Walker returned to Harvard in 1978 as chairman of the Landscape Architecture department. Here he began studying the relationship between
landscape design and contemporary art, especially Minimalist art. He also developed an interest in Land Art, such as Richard Long’s Sea Lava Circles (1988), and practiced in the real world. In 1984, he was asked to design a small landscape on the Harvard campus. The site was a pedestrian crossroads that was encircled by buildings and other constructions. After considering the demands of students and faculty, Walker built the Tanner Fountain to provide a place for people to meditate and relax. The success of Tanner Fountain confirmed the feasibility of minimalist gardens and demonstrated Walker’s ability to control the power of stones (Levy, Levy, & Walker, 1997).

**Physiographic and Biological Context**

Tanner Fountain is an important demonstration of Walker’s affinity for the power of stones. Situated at a pedestrian crossroads surrounded by buildings and fences, the fountain consists of a 60-foot circle delineated by 159 stones placed in concentric but irregular circles, creating an open geometric form. Each boulder is about 4 x 2 x 2 feet, and all are embedded in the ground. The boulders were carefully arranged by Walker to allow visitors to enter and pass through the area. Grass, asphalt, and concrete paths intersect at multiple points in and near the circle, varying the textures and colors of the field.

**Design Details**

There is no doubt that Peter Walker was greatly influenced by Earth Art. For example, Carl Andrew had a significant impact on him. Andrew’s masterpiece “Stone Field Sculpture” created a varied and magical space through the arrangement of raw, rough stones in a form of mathematical progression on the lawn. Traditional Japanese Zen gardens were another source of ideas. The poetic design of the Zen garden shares the ideas of Minimalism and Earth Art, which use sand and megaliths to represent water.
and mountains. Inspired by the Zen gardens and Earth Art, Walker applied a similar form to the Tanner Fountain.

In the center of the site is the mist fountain designed by John Beliham. It contains five concentric circular nozzles, each about four feet high. In the spring, summer, and autumn, mist comes out of the nozzles and looks like a cloud hovering over the stone. Because it changes with the height of the sun and the viewpoint of the pedestrian, the mist brings a sense of mystery to the space. Because there is no pool on the ground, when water lands it is quickly collected by the pump. In winter, when the temperature drops below freezing, the water system is shut down and the university’s central heating system is used to completely shroud the stones. This effect exists for a shorter time than the mist, giving people a sense of the fleeting and perishable.

The multiple functions of the fountain made it a perfect landscape design work, not only a piece of Earth Art. Visitors and students can sit down and rest on the stones, meet each other, or just pass through and experience the place. It is also a great place for visitors to connect with the outside world, enjoy the mysterious and poetic environment, and experience the natural changes of light, leaves, and seasons.

**Summary**

Tanner Fountain is a Minimalist work full of contradictions. It is an important manifestation of Walker’s ability to control stones and intimate nature. The design of the fountain came from Stonehenge in England yet shared its architectural style with Harvard University: the contradictory coexistence of the classic and the modern.

The design of Tanner Fountain established a precedent for landscape architects to create public sculpture. Moreover, as time goes by, it still demonstrate incredible
vitality and maintain the original idea. The four season’s changes and the application of water left a deep impression to visitors and kept them in their memory.

For this case, the analysis of temporal dimension was more important than others. The seasonal changes led to a serious of different scenes. With the changing of temperature, water and mist create diverse scenes under the help from sunlight and shadow. What is more, physiographic and cultural contexts were involved to explain design ideas of the Fountain.

Additionally, elements and languages like fog, boulders, the fountain, concentric circles, and isolated planting are used in the project and demonstrate “landscape as art.” The scenery changes with the seasons and confirms the reason why Walker love Minimalist gardens: “I like minimalism because one of the things you do is make people see natural process more strongly. A constantly changing nature defines a distinct art form, unique to itself and separate from the others” (Nemetschek Vectoworks, Inc., 2012, P. 3).

In a word, the three cases were selected from more than 15 cases of Peter Walker’s designs. It is true that the three cases cannot take all common elements and design methods in to consideration but the crucial and essential parts of Minimalist gardens were introduced, involved, and later were discussed in the next chapter.
Figure 4-1. Base map of 9/11 national memorial. Source: Google Earth, Edit by author.

Figure 4-2. Swamp white oak tree. (Image from PWP Website. Source: http://www.pwpla.com/national-911-memorial/memorial-trees ) Edit by author.
Figure 4-3. Forest design details. (Image from PWP Website. Source: http://www.pwpla.com/national-911-memorial/landscape-design ) Edit by author.

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Figure 4-12. Base map of Burnett Park. (Image from Google Map) Edit by author.
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Figure 4-20. Mast Plan of Tanner Fountain. (Image from PWP website, Source: http://www.pwpla.com/projects/tanner-fountain-harvard-university/&details) Edit by author.
CHAPTER 5
DISCUSSIONS

Overview

This chapter presents and explains the answers to the research questions, the limitations of the study, and expectations for future research. First and foremost, the common elements and methods of Minimalist gardens will be introduced and summarized. Next, limitations of this study are elaborated and discussed. The third part is about opportunities for future study.

Discussions about Case Study Reviews

It is not hard to see that the design works of Peter Walker contain a strong sense of rhythm and order created using geometric forms, such as straight line, the grid, parallel lines, and concentric circles. Each of these forms illustrates its own special features and functions. For example, the straight line, as a set of points, has clear directionality, which represents the processes of development and expansion. The grid demonstrates a strong sense of ordering and covering (Chen, 2007). The flexible combination and application of geometric forms show his unique understanding of the connection between nature and the social through original and mechanical methods.

Apart from geometric forms, Walker often expresses Minimalism using plants. The case studies show four styles of planting that are common in Minimalist gardens. For example, isolated planting reflects the pursuit of minimal numbers, by using a single tree. Minimalist designers also use just a single species in their works to obtain the same visual effect. Manicured lawns and hedgerows are two other common styles of design favored by Minimalist landscape architects. The pure, even color and texture make it suited to different materials and lets it become a bridge connecting different
functions. The same features of the lawn enable the hedgerow to work as a connection, and the low height makes it suitable for segmentation. In addition, tree formations can easily create a sense of both the solemn and the humorous.

According to the literature review, the Minimalist Landscape was inspired by the French Palace-style Garden and Minimalist Art. The two analytical methods which from Carmona and LaGro later confirmed the idea and demonstrated the common elements and methods applied in the three cases. For example, the visual dimension analysis of Burnett Park discovered the geometric forms that were used and their different meanings. More importantly, these elements and design methods are not only summarized from the three cases but based on more than 15 works from Walker and others. In fact, common elements applied in Minimalist gardens may contain fountains, megalith, manicured hedges and lawn, trees, low walls, metal constructions, and colored stones or pavements. Also, the geometric forms may involve the straight and parallel line, concentric circle, grid and the planting methods may include isolated trees, manicured lawn and hedges, and tree formations.

After carefully reviewing these design works from Peter Walker, the author picked three most representative cases which also involved these features as much as possible. Additionally, it is not just a set of author’s subjective speculations but based on the knowledge and analytical methods from literature review. The knowledge of French Palace-style and Minimalist Art provided a direction when analyzed the design process and ideas of these works. These analytical methods may not fully apply well but also help audiences to understand how Walker create these mysterious gardens.
Limitation of This Study

In this study, there are several limitations to the research methods and analysis methods, which if resolved would lead to a more complete and profound understanding of Minimalist gardens. Although the three cases from Walker’s work were carefully selected and good enough to reveal the hidden rules behind his Minimalist gardens, several other great cases, such as Martha Schwartz’s Bagel Garden, the North Duisburg Landscape Park designed by Peter Latz, and Walker’s IBM Solana and Center for the advanced science and technology, were not introduced due to limitation of time and means.

Moreover, the analysis methods, which were taken from LaGro’s site contexts and Carmona’s urban dimensions, are great, but the shortage of data limited the application of these methods. For example, the analysis of wildlife also belongs to biological context, and this would reveal the influence of the landscape on wild animals. For lack of data, however, we cannot determine whether these designs had an impact on wildlife.

Finally, even though the paper summarizes the principles and design elements of Minimalist gardens, it is not easy to put those into practice. People may have a basic understanding of what Minimalist gardens are and how they work so well in these cases, but this does not mean that we can easily make use of what we have learned from Minimalist gardens to answer our own challenges.

Opportunities of Future Research

Minimalist gardens add a unique fascination and positive energy to modern landscapes. They have become more popular and attractive through constant exploration and practice. This thesis offers some directions for further studies.
First, Minimalist gardens may be studied together with other areas instead of the landscape itself, especially for urban design and architectural design. For instance, many great works that were created through the concerted efforts of architects and landscape architects greatly enchanted the public. The 9/11 Memorial demonstrates the feasibility of cooperation between these two groups.

Second, further studies can focus attention on the relationship between sustainable design and Minimalist gardens. Minimalist gardens draw attention to “mounting waste and dwindling resources” (Walker, 1997, P. 20), which agrees with the principles of sustainable design. Using few objects to control a large place is a common design principle in Minimalist gardens, and also meets the demands of sustainable design.

Finally, future studies might examine the suitability of Minimalist gardens in different situations. As was mentioned, one of the shortcomings of this study is that even when all the elements and design languages of Minimalist gardens are learned, people may still not be able to apply them well without a lot of practice. For example, the 9/11 Memorial was originally designed as a square to be filled with hard pavements and no plants at all. But after reviewing the green infrastructure system of Lower Manhattan, the designers changed it into a small public park, which greatly relieved the lack of green space.
CHAPTER 6
CONCLUSION

This thesis made attempt to demonstrate the potential of Minimalist Landscape in urban design to open space and discussed in detail the origin and development of Minimalist landscapes, and determined the most common elements and design languages used in these works. These elements and languages were summarized through the analysis of more than 15 landscape works of Peter Walker, and then, explained part of them in the three representative case studies. The analytical methods were derived from the principles of LaGro’s (2001) site context analysis and Carmona’s (2003) urban dimension analysis. Though it did not examine all possible cases, the review did reveal five of the most common elements, four main design languages, and four landscape planting forms. The elements were striped pavement, stones, fountains, manicured hedgerows, and lawns; the main design methods involved straight lines, parallel lines, grids, and concentric circles; the four landscape planting forms were isolated planting, tree formation, manicured hedgerows, and lawns.

Inspired by seventeenth-century French gardens, landscapes from Le Note, and contemporary art, Peter Walker explored a new way to express his ideas about beauty and soul in landscape design. The Minimalist Landscape not only meets the demands of modern art, but also consider the impact of classical culture. Like Minimalist architecture, his gardens seek to express the void through the application of geometric forms and deliberate consideration of the number and species of plants used. We found that the geometric division created both diversity of space and the expression of the void. Plants of the same color were used to create pure patches, and only few kinds of
plant will be used in a project. These features can be summarized by saying that heterogeneity is the principle of the application of plants in minimalist gardens.

Because of economic development and the increase in environmental awareness, landscape architecture has already become a carrier of spiritual life (Tian, 2008). More and more design works belong to landscape area, and new design languages and materials are being used in these works. Minimalist gardens are part of this trend and have a positive impact on the development of the modern landscape, which also shows the feasibility of combining landscape design with contemporary art. By copying the forms and elements without understanding the connotations of Minimalist art, one could never build a true Minimalist garden.

In an urban design project, designing an attractive open space for the public is a great challenge but also an opportunity. Minimalist gardens demonstrate many ways of designing attractive and mysterious open spaces. This paper offers a way to approach and learn from minimalist gardens and emphasizes the importance of practice in the real world.
LIST OF REFERENCES


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BIOGRAPHICAL SKETCH

Jianhua Cui was born in Yingkou, China in 1990. He attended Beijing Forestry University and graduated in July 2013 with a bachelor’s degree in urban planning and design. During the undergraduate studies he learned a lot of urban design principles and design software but ignored the accumulation of planning knowledge. Since then, he decided to pursue the graduate study in the U.S. The graduate study of urban and regional planning in university at the University of Florida helped him understand the history and nature of planning as well as explore diverse planning issues other than urban design. He continues to develop his knowledge of and skills related to urban planning and design to find methods from urban planning and design to solve poverty and urban issues in the world.