A review of practice of landscape architecture in Britain since 1990, with particular reference to urban public space

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Abstract

The purpose of this research project is to summarize British landscape architecture's characteristics, including design ideas and spatial features through the case study and field trip, which would inspire development of landscape architecture in China and other countries.

In the first chapter, the thesis introduces the reasons for choosing this topic, including why the thesis chooses the landscape of urban public space, and focuses on the past 20 years in Britain.

In the second chapter, the thesis focuses on the definition, types and history of public space, providing the research project a contextual foundation.

In the third chapter, the British representative landscape projects of public space landscape are analysis through a typological study. These cases include different scales (large-scale project such as Thames Barrier Park, and small-scale project such as Cluny Mews pocket Park).

In the fourth chapter, through the integrated using of case studies, literature studies, field trips, comparative studies and other methods, the characteristics of British landscape architecture are concluded. The characteristics include embracing globalization influence, using landscape architecture as the catalyst of urban regeneration, influenced by art and focusing on the ecological concept.

In the fifth chapter, the thesis tries to sum up the reasons for the success of the British landscape architecture experience which could be learned by China is pointed out by comparing these two countries' landscape architecture.

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Chapter1 introduction

1.1 reason of research choose

Historically, in Europe, the emergence of the English landscape-style garden is the great change of landscape architecture, which brought about the third peak of the development of the Western landscape gardens following the garden of Italy and France. They all have the important and far-reaching impact on the development of landscape architecture in the world.

However, after turning into the modernism, compared with other disciplines, in the UK the level of development in architecture and planning is higher than the level of development in landscape architecture. In the world, the impact in the architecture and planning industry is greater than the impact in the industry of modern landscape design. For example, in the architecture industry, there are worldwide well-known architects such as Norman Foster, Charlie Rogers and Zaha Hadid, etc., and in the planning industry, the theory of Garden City created by Howard has had a great impact. However, in the landscape architecture industry, except Christopher Tunnard and Geoffery Jellicoe, it is very difficult to find other world-famous landscape architects.

However, since the 1990s, great chances have been taking place in the landscape architecture industry. Landscape architecture attracted more and more attention from the public and media, and the status of the landscape architect is also on the rise. Large-scale project must have the participation of the landscape architect, and even from the beginning, the project should be under the global leadership of the landscape architect. In 1997, the issuance of the British Royal Charter gives the Landscape Institute the right as a government's landscape consultant to ensure that the society

can have a strategic impact on government thinking and policy. It keeps pace with the Royal Institute of British Architect (RIBA) and Royal Town Planning Institute (RTPI), and its membership is expanded to those experts whose professional fields are landscape management and landscape science.

With the importance of environmental quality was recognized by governments, a series of measures has been taken to promote the high-quality environment to be enjoyed by more and more people. High-quality public space is also one of the cores in the national huge plan, and attracts attention from the public. Since New Labor took into power in 1997, in response to the major urban voters, it introduced a policy focused on the public, which is quite different from the Conservatives. One of the major purposes is to let people return to the city to save its decline, the so-called Urban Renaissance, which brought about a lot of public landscape construction projects, such as the reconstruction of the centre of Manchester City. Many works played an exemplary and leading role in the development of the industry.

Based on the above discussion and the academic in China (where I came from) focuses more on the analysis of the British classical landscape-style garden, but less on the new changes in the recent 20 years. This article hopes to reflect the features of the British landscape at the turn of the millennium through the study on the urban public landscape in the UK and the analysis of the design practice since the 1990s. And it also hopes to give hints to the landscape development in China and other countries.

1.2   research methodology

The choosing of research methodology is related to the essence of research's problem and objectives. "Usually, the best study design uses more than one research method, taking advantage of their different Strengths" (Babbie, 2001). In this thesis, these research methods are used:

1.2.1 Literature review and review of former documents

A number of secondary sources, books and articles concerning the development of urban open space, urban renaissance and British landscape architecture are used to get the information of necessary theories and overview of existing research results.

1.2.2 case study

This strategy is used as a qualitative approach, and is one of the most important methods in the research methodology. The cases selected include variety types of projects throughout Britain, including parks, squares, streets and pocket parks, from the large size of urban parks to small size of pocket parks, and almost all of them have got National Awards such as the Landscape Institute Awards and Civic Trust Awards.

1.2.3 Field trip and photography

Field trip is used for some of the projects, and a digital camera is used to record the physical survey of the site. This method is helpful of answering questions about how do citizens use different kinds of open space? What are the spatial characteristics?

1.2.4 Classification study

The same types of landscape architecture have similar design approach, so the thesis takes Classification study method. According to classification of landscape architecture such as parks, squares, streets, representative case of each type is selected for the study of the landscape design, and then the common feature of spatial composition and design approach will be found.

1.2.5 Comparative study

When studying for each classic case and the development of public space, comparative study is often used. Related projects are compared such as designers of

Britain, other European countries and China have different design approach, and conclusion will be obtained.

1.2.6 Summary study

The thesis has summarized as two main lines: First, based on the analysis of practice of the British landscape, the overall characteristics of a public landscape will be summarized; second, according to analysis of spatial layout, design ideas of the different types of landscape architecture, spatial feature and design approach of each type of landscape architecture will be summarized.

Chapter 2 urban open space

2.1 Definition

It is necessary to have a definition of urban public space because people have different understanding according to varies disciplines, and a space cannot survive without definition. Urban public space is a complex concept，and different scholars have studied about it, which leads to be numerous of definition. Francis (1989) believed that open space are the places where public culture and life could be created, which focus on the social activities. To Matthew et al (2007), "public space (narrowly defined) relates to all those parts of the built and natural environment where the public has free access…..it includes the interfaces with key internal and external and private spaces to which the public normally has free access", which enhance the importance of free access. Carr et al. define it as " open, publicly accessible places where people go for group or individual activities…some are under public ownership and managed, whereas others are privately owned but open to the public" (Carr et al. 1992). The key words of this definition are access, ownership and control. The multiplicity of stakeholders is easy to discover. Many current urban publics are still traditionally owned by a local authority, but this situation is changing. Matthew et al (2007) argued that "the increasing complexity of public spaces as physical entities is mirrored by increasing complexity of the stakeholders…..in part this is a result of the impact of the increasing number of private stakeholders with a part to play"

Based on former studies, it is summaries that urban public space is space between buildings, which is open to public access and provide places for public social activities, while it may be private owned. It is the living room and showcase of cities. It is an important carrier for urban ecology, urban life and changing dynamically. Various demands of residents' social life and city's variety of functions lead to various types, sizes, grades of urban public space.

2.2 Type of urban open space

Carr et al (1993) have argued the types of urban public space.

A Typology of Contemporary Urban Public Spaces

Type	Sub-category
Found/neighborhood spaces	Found spaces/everyday open spaces
Playground	Playgrounds
	Schoolyard
Waterfronts lakefronts	Waterfronts, harbors, beaches, river fronts, piers,
Atrium	Atrium/indoor marketplace
	Marketplace/downtown shopping centre
Community open spaces	Community garden/park
Squares and plazas	Central square
	Corporate plaza
Green ways and parkways	Interconnected recreational and natural areas
Public parks	Public / central park
	Downtown park
	Commons
	Neighborhood park
	Mini/vest-pocket park
Memorial	
Markets	Farmers' markets
	Pedestrian sidewalks
	Pedestrian mall
Streets	Transit mall
	Traffic restricted streets
	Town trails

Source: based on Carr. etc. 1993

2.3 Reviewing the development of urban public space in Britain briefly

The development of urban open space reflects history, culture, social and tradition. This section is not a history book of public space but to find the background of public space, which would help us to understand the landscape architecture practice of public space nowadays.

The ancients:

Urban public space is the origin in the ancient Greece and Roman civilization. The flourishing of the polis in ancient Greek and Roman lead to public space. Lt Gates and Stout(2000) argued that "public life was essentially communistic. The polis as a social institution defines the very nature of being human for its citizens, whilst the physical form of the polis stressed public space." Britain has different attitude to urban open space. British first city originated in the colony which is a planned town that retired Roman soldiers inhabited in AD 49. David W. Lloyd (1984) argued that Europe continental countries accepted piazza or plaza as the focus of any city or town, which is different from traditional English towns. To him, "the lake of a proper English word for piazza and its equivalents reflected the fact that the earlier Saxon towns did not normally have wide places as square". Generally, Britain has not the tradition to use squares compared with other continental countries whose construction of squares had a process of breeding, development and climax during Ancient Greek, Roman, Medieval and Renaissance, but the chief public space in historic English town was the marketplace. These plazas promote democratic participation and emphasis on equality. In terms of China, because of the history of the feudal imperial society and lacking of democratic traditions, streets were the main type of open space, and square in front of the temple provided public space as well. There was square in front of palace, which is the symbol of feudal etiquette instead of public use.

The middle ages onwards:

At this time, the state and city life declined and the church became powerful. The church usually formed and dominated the chief medieval public space. The public space in front of the church was used for the religion festival and markets often shared the same place with opening weekly.

Victorian era:

The industrial revolution affected and changed the structure of cities. The application of steam power looms promotes a large-scale industrial production of the textile industry, causing the concentration of labor and factories. Industrial cities began to emerge, and development of the railway promotes farmer's flock to cities, causing explosive population growth and Rapid urban expansion. Because of above context，Public spaces became more and more important. At that time, there was a theory of miasma argued that "all disease was due to bad air" (Cartwright 1977) and public space was as the lungs of the cities to provide fresh air. Therefore, it is believed that urban public space has a positive effect to the health of residents and workers, which led to the construction of urban parks. For instance, Royal parks in London were opened to the public in seventeenth century.   The first public park was created –the Arboretum at Derby (1839-40).

Into the modern era:

To Susan E. Walker and Brian S. Duffield (1983), it is believed that "the post-war period is undoubtedly seen as decline in interest in urban public space with increasing emphasis being given to the indoor sports and open space provision in the countryside". However, from 1970, there were increasing numbers of attempts to urban public space. There are many reasons: firstly, national and international economic change led to socio-economic recession. For example, Manchester had a population of 750,000 in 1951 but had a population of 50,000 in 1981. In Britain,

almost every big city had this recession. In order to rescue the decline of urban areas and promote urban regeneration, the government invested a lot of funding, and improved the public space. Secondly, commercial development also contributed to renewed interest in urban public space. The strong competitiveness of suburbs retail was the reason that high quality of downtown open space was required (Jan Wondstra, 2006). Thirdly，concentration of urban population would cause urban heat island effect. For instance, London Black Mist in 1952 is caused by severe urban heat island effect, which led to 4,000 deaths due to wind speed decreased and the smoke dispersed. It aware people that large public space such as urban parks and green spaces play an active role for reducing urban heat island effect.

Chapter3 Practice of landscape architecture in Britain

3.1 Public park

3.1.1 Thames Barrier Park, London

Figure 3.1: The Green Dock of Thames Barrier Park

Source:http://www.libranches.org/branches/london/projects/ProjectShowcaseThames BarrierPark.shtml

Background: Thames Barrier Park is the first riverside park since world war two and the first largely post-modern design in London. Historically, the site was an industrial chemical factory, dying, military factory, and has been used as the deposit and working area for the Tames Flood Barrier since 1984 as brownfield. In 1995, London Docklands Development Corporation (LDDC) bought the site and held an international competition. The brief is about to "successfully address the metropolitan promise of the site as well as the recreational needs of the local population."Over 200 proposals were submitted, and a joint team, including landscape architecture Group Signs of Paris, architects Patel Taylor of London and the engineering firm Arup won the competition. In this project, the French landscape architects introduce the new

form of design-geometry spatial layout, which is totally different with traditional English Picturesque Landscape, and the idea of using public landscape as the catalyst of urban renaissance instead of just creating another green lung from the leftover space.

Ideas: the ideas behind the design are that public urban park investment should be the catalyst for private development of the surrounding area, and the team was aware that the park's influence should stretches far beyond the boundary of the green space. In addition to that, the idea is to create a unique place of cultural significant instead of only another green lung.

Layout: the overall design creates a strong relationship between the park and surrounding urban structure. The Green Dock visually connects northern Pontoon Dock and Royal Dock with Southern Thames Barrier and Thames River. The visitor walks through various strips plants have the same direction as the Green Dock, which enhances integrity of layout. Besides these routes, another diagonal connects future development regional and waterfront.

From north to south, the density of woodland is decreasing—strips trees mixed with shrubs emphasize the enclosure and intimate space in the northern part while southern part of the park is dominated by lawn and have the magnificent view of the Thames River..

Conclusion: Thames Barrier Park is not a traditional English landscape park. Rather, it is a contemporary park with modernist visual experience. It gives people a new visual experience and new landscape forms. The winning of a French company indicates that British landscape is influenced by globalization. Major projects are all decided by international competition, which ensures the adoption of a high-level program. Compared with the Victorian parks simulating the nature, this project indicates that in the design of the urban parks, regular landscape can also succeed. It

also reflects the changes of design and the changes of people's understanding of the meaning of "nature" in the city, that is, simple analogue to the nature changed into the artificial creation of nature. That is to say, people can accept the modern urban parks with geometric forms. The design is simple yet bold and the detailing has resulted in a high-quality environment.

In addition to the historical heritage (horticulture), the park explores the idea to be a catalyst for surrounding private developers. For example, the construction of the surrounding park accelerated the sales of the residential areas on the western side, promoted the construction of a primary school and a downtown in the northeast of the residential area. In the west of the park, the original old buildings are being gradually dismantled in order to make room for the future comprehensive development zone. With the conduction of various kinds of development surrounding the park, the traffic to reach Thames Dam Park is also being improved. The construction of the park promoted the development of the surrounding areas.

3.2 Urban squares

Clare Cooper Marcus and Carolyn Francis(1990) believed that square is the outdoor public space with hard pavement mainly, and its main function is for walking, sitting, etc.

In this thesis, urban squares refer to an open space which is enclosed by buildings, roads and trees, and has variety compositions of soft landscape and hard landscape, using pedestrian traffic, and squares are the center of urban public social life. Urban squares are the important part of the public space. The square origin from Greek Agora and evolved through Roman forum, the Medieval Church Square, the Italian Renaissance Piazza and the Spanish Plaza. Ken A. Tani(2002)argued that "in Britain the Geogian Square and the Victorian Civic Space marked the evolution of the public space"

In recent years, lots of urban squares have been constructed or regenerated including Trafalgar Square in London, Royal Victoria Square in London, Queen Square in Bristol, Victoria Square in Birmingham, Exchange Square in Manchester, Old Market Square in Nottingham, etc. according to field trips of these squares. It is summarize that there are some same characteristics: High quality of materials are used usually because urban squares play an iconic role in the cities; Waterscape is a common element in order to attract citizens and create a liven public space; construction period is short; compared with sustainability, social and economic factors are more to be concerned about, in other words, providing a place for public social life and enhance surrounding property values are chief goals.

3.2.1 The new Piccadilly Gardens

Figure 3.2: Aerial view of Piccadilly Gardens

Source: http://www.nmaffei.com/Fulbright/images/XIMG_0339.jpg

Background: Piccadilly Gardens, the biggest public space in the city center of Manchester, located in a strategy location between commercial, cultural and

recreational districts.

Historically, Piccadilly Gardens was Royal Infirmary since 1752, and became a Victorian sunken garden later and had fountain and ornamental flowers. At that time, citizens were proud of the flowerbeds. From the 1960's, Piccadilly Gardens began to be isolated because of increasing traffic. Byass (2010) indicated that "Problems of homelessness, alcoholism and drug abuse also became evident in the Gardens, exacerbated by its bounded spatial character and sunken central space." In 1996, the IRA bomb in the downtown and holding of 2002 Commonwealth Games in Manchester led to a regeneration project in the city center. An international competition was held, and EDAW proposed the winning proposal. After construction during 2001-2002, Piccadilly Gardens wined plenty of awards including Landscape Institute's 2002 Public Design Award. The Landscape Institute's judges said "drag British landscape design kicking and screaming into the twentieth century."

Ideas: Firstly, this project aims to create pedestrian hubs connecting surrounding areas. In order to achieve this goal, different directions' roads extending from the surrounding buildings join in the Piccadilly Gardens. Vehicle road located northwest of the place was replaced by paving for pedestrian, which integrates the square with surrounding environment instead of isolation.

Secondly, the project aims to create a new impression of the city for visitors. People coming to the city center by tram, bus and walking would easily notice this square.

Physical characteristics: Most parts of the square are covered with turf instead of pavement. These turfs are highly used especially in summer season, for instance, people come to have a lunch or kick balls. The turf is divided by several pathways, which facilitates the flow of people in Piccadilly Gardens. The boundaries of pathways are designed as temporary seating, which raises the elevation of the lawn and change the turf as slightly undulating topography.

An oval water feature, 27X50m, dominates the central of Piccadilly Gardens. The continued changing fountain creates dynamic landscape and becomes the most attractive place in the square. The lawn and fountain areas are created for relaxing and playing while outdoor dining area is placed around the lawn.

Two new buildings are constructed in Piccadilly Gardens. A hotel on the southeast side is designed for enclosing the square and a café house, designed by Tadao Ando as a barrier, separates the square from bus station's noise on the south and tram station on the southeast.

Conclusion: compared old Piccadilly Gardens and new Piccadilly Gardens, many changes could be found. In the past time, the spatial layout was regular; the place was isolated; the space was enclosed without relationship with surrounds; the activity was simple because of monotonous space type. In the new Piccadilly Gardens, the spatial layout is abstract with flowing-space; the square is open as the pedestrian hub for the city and the square have diverse space for various activities, including walking, sitting, playing with water scape, watching and lie on lawn, etc. However, there are some imperfections. Ando's Pavilion is a lack of dialogue with surrounding existing buildings and the quality of concrete is not very good, which reduces the visual pleasure; the lawn is not well maintained with bare soil; overlooking the square, there is a nice form while people feel the space is scattered when going into the square because of dividing by pathways. Overall, the design of new Piccadilly Gardens is successful because it is integrated with urban fabric and provide opportunities for diverse activities which is needed by citizens

3.3 Streets

Streets are important part of the urban public spaces. Jane Jacobo (1961) described when we are imagining a city, the first thing appearing in my mind is the streets. When the street is live, the city would be live; when the street is dreary, the city would be boring. If the Parks and squares are the most important node in the public space, street spaces are the basic elements that constitute the framework of urban public space.

In recent years, some street regulation projects have begun to improve the quality of street environment. For instance, Home Zones, streets designed for meeting the interests of local community and balancing vehicle traffic with cycling and pedestrian, are encouraged by UK government. Historically, the Home Zone concept, called woonerf, origin from Holland since 1970s and many countries have produced safe districts by using this concept. In Britain, nine pilot Home Zones schemes have been planted while many other local areas are operating projects based on Home Zones ideas.

3.3.1 Streets of Ancoats public realm

Figure 3.3: A street of Ancoats public realm

Source:http://sharpedgetrip.blogspot.com/2011/02/pedal-powered-ancoats.html

Background: Ancoats, located in east Manchester, was the first industry suburb where numbers of mills were built for cotton manufacture. Before the early of 20th century, Ancoats was a flourishing place while it became depression and abandoned for more than 50 years because of recession and depopulation. In order to revival this region, a "Public Realm Strategy" and a "Public Realm Implementation Plan" began since 2001 and 2004 separately. The regeneration schemes include changing of street scape, public squares and integration of artworks, and the improvement of street scape are most important among them. After its construction, it won lots of awards including Landscape Institute's Urban Design and Master Planning 2009 Award.

Ideas: the goal is to create human street space for local citizens. There are three key principles: "the Georgian street grid is sacred; the public realm in Ancoats resides in the streets; a safe, robust and elegant spatial infrastructure is needed"(Martin Stockley, Irina Brune 2009). Based on analysis, the rigid streets' grid built in late 18th century still exists. The restoration and new proposal try to meet needs of restoring the original streets' structure. In order to attract people return this district, vehicle speed is limited and pedestrian priority replaced vehicle priority, by using various approached including rough stone paving and minor turning radius.

Physical characteristics: On-street parking and rough pavements are used as an effective way to limit vehicle speed. Turning radius of the vehicle roads are minimized. In addition to the measures of reducing vehicle speed, urban furniture such as the concrete bench was placed to encourage people's usage. In addition, artists were invited to participate in the project. Near the roadside, artist, Dan Dubowitz, designed 16 metallic peepholes, which show the historical scenes of the city. These peepholes created a new relationship between visitors, streets and history of buildings. In terms of detail, plenty of different high-quality materials are used in the project including granite, reclaimed paving, yorkshire slabs.

Conclusion: the reasons of success of Ancoats project are diverse. The scheme uses a simple concept that put human needs in the primary position instead of vehicle. The project encourages people to discover the site's history by reintroducing original streets' grid and integrating artworks as a metaphorical approach. Street space is so important and closed to everyone's everyday life, and Ancoats project gave us a good inspiration.

3.4 Pocket parks-Cluny Mews Pocket Park

Historically, the concept of pocket park was first put forward by Zion & Breen Associates. A company owned by Robert Zion (1921-2000) in the exhibition organized by Park Association of New York in May, 1963. It is based on the proposal "New Parks Serving New York". Its prototypes are the midtown parks dotted in the high-density urban areas with a patchy distribution, which is also called pocket park system. Robert Zion mentioned that this new park is located in the high-density urban areas, with a small area, separated from the pedestrian and traffic flow, and it is an outdoor pleasant open space with safety and pleasant scale, and far away from noise. Both of parks(point), streets(line) and Pocket parks(surface) are the necessary parts of urban open space，and they provide different functions. In this paper, pocket parks, also called Mini-park or Vest- Pocket Park refers to the urban open space with a very small area. They often scatter or hide in the city with a patchy distribution, and provide direct service for the local people. They can meet various kinds of functional requirements, including small entertainment space, children's play space, space for the lunch break and so on.

For instance, Cluny Mews Park, located next to the Adshel Headquarters building London, is a typical pocket park because of its small area with about hundreds of square meters. In this project, a mature London plane tree was retained, and a small paving site was created around the tree. A glass screen was placed as a barrier at the

edge of the pocket park not only separate the traffic noise, but enclosed the park with hedges to create a nice place for sitting and relaxing. The pavement is resin with a circular pattern, which formed a lively atmosphere. Gabion walls with plants were designed in the transition space between the headquarters building and the park. Using new materials, including resin and glass, etc, this pocket park creates dynamic atmosphere in a small space.

Figure 3.4: Cluny Mews Park

Source: http://www.coe-design.co.uk/projects/cluny.html

Conclusion: Pocket parks are often located in dense urban areas, utilizing small vacancy which is easy to be abandoned and forgotten by people. Although these parks are difficult to have great ecological benefits because of the small size, but they often have high usage and are successful because the locations are easy to reach for local residents. City parks are often the place where people often go for the weekends. However, the park system which can really contribute to the daily life must be readily accessible and easy to use. Pocket park can achieve this effect just because of its features of smallness, convenience, and ubiquity. It can become a good supplement to the city parks, and its role is no less than that of the city parks with large area.

Chapter4　　Characteristics of Britain landscape architecture

Based on the preceding analysis, it is discovered that the British landscape architecture has the following characteristics:

4.1 Attitude towards traditional culture and foreign culture

Historically, Britain has formal landscape, classical natural landscape and picturesque landscape. However it is difficult to find the trail that the modern landscape architecture imitates these traditional styles completely. In terms of tradition, they have an attitude of learning instead of copying blindly. This is why British landscape architecture is glad to embrace changes. Relatively speaking, the British landscape architecture tends to look forward rather than backward, and innovates constantly.

Will Williams(2001) argued that" if we feel strongly that contemporary is the way forward, we should be bold enough to say so and demonstrate it in our work…….after all, Capability Brown was considered a radical in his time"

British landscape does not exclude foreign culture, because Britain has become a multicultural country since the Roman Empire and the Scandinavian invasion. Historically, Britain has constructed gardens by imitating other European countries. Such as the Italian Renaissance-style terrace garden (representative works: Castle Bromwich Hall Gardens), Le Notre French-style garden (representative works: St James's Park), the Dutch palace-style garden (representative works: Westbury Court Garden). Compared with China, Chinese garden has been evolving in the ultra-stable with few external influences, thus forming distinctive traditional features. These reasons influence that British modern landscape architecture develop as an international style, while Chinese modern landscape architecture is often concerning about the inheritance and innovation between tradition and modernity.

Nowadays, British landscape architecture is affected by globalization. There are many

foreign landscape architects come to UK for operating design firm and have been successful, while it also brings the influence of foreign design style. For instance, Eelco Hooftman, born in Netherlands, founded Gross.Max with his partner in Edinburgh, which has got an international reputation; Kathryn Gustafson and Mary Bowman, born in USA, founded Gustafon Porter in London, which has design lots of famous projects such as Diana, princess of Wales Memorial Fountain. American firm EDAW has a branch office in London. EDAW is the one of the world's largest landscape design firm, which won the London Olympic Park design competition. Martha Schwartz founded a landscape firm in London. In 2008, London Mayor Ken Livingstone appointed Martha Schwartz as the advisory group member of Design for London, working with many famous world-class architects, planning and landscape masters to provide professional advice and services to the construction for London's public space. In UK, many important projects are determined, using an international competition to encourage foreign companies to participate fairly, and some of the best foreign companies could win the competition.

In fact, a considerable number of famous British landscapes were designed by foreign landscape architects. Such as the Thames Barrier Park was designed by French Landscape architect 'Allain Provost'; London 2012 Olympic Park, was designed by an international company EDAW; Manchester Exchange Square was design by American Martha Schwartz as well.

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In general, traditional British landscape architecture has multi-style features in the long process of development because of influenced by many outside influences. In addition, British landscape architecture tends to have hybrid style. There is not only formal landscape such as Tames Barrier Park，but also Jubliee Garden (designed by West 8) looked like traditional English Style Garden and Manchester Exchange Square which is rich of artistic expression.

4.3 Landscape architecture as the catalyst of urban regeneration

4.3.1 The background of urban regeneration

Many British cities developed rapidly and became rich after Industry Revolution. After Second World War (especially 1970s), the manufacturing began to decay because traditional industries shifted to developing countries that had lower manufacturing costs, which increased unemployment rate. For instance, Rowland Byass (2010) believed that "during 1971-1997, more than one in four jobs was lost in the City of Manchester."At the same time, suburbanization lead to population decline in the city center. During 1951-1981, over 52% of inhabitants were lost in the inner city of Manchester. These cities began to decline although they had a glorious history. As a result, the issue of urban regeneration was proposed.

4.3.2 The goal of urban regeneration

Hoppenbrouwer (2004) argued that the goal of urban regeneration is about improving people's quality of life and working conditions. It is because the urban life is unsatisfact, for instance, city center has traffic jam, air pollution and lack of public and green space, which lower quality of life. British government proposed that the goal of urban regeneration is to put forward operational measure, which would attack people back to urban centers. (DETR,1999)

4.3.3 Landscape architecture in urban regeneration

Landscape architecture could play an important role for urban regeneration. In 1999, Urban Task Force, led by Lord Richard Rogers, completed the landmark report-<Towards an Urban Regeneration > which mentioned the proposition that successful urban regeneration must be design-led, and design of public realm has absolute priority, and design should create public space linking architectures, entrance with streets, squares, parks. Landscape architecture is catalyst for urban regeneration reflecting in two aspects:

- Stimulating the investment.
- Attacking people back to cities.

Colenutt and Tansley (1990) argued that part of the reasons leading cities' decay are private investors lack of confidence about cities. For instance, according to Barcelona, Amsterdam and Paris, public space with high quality demonstrated attraction for private investment, such as restaurants, bars, supermarkets, nightclubs and public flats. Take Thames Barrier Park for example, when the park was opened, the house adjacent to the park became one of the fastest selling new housing developments in London, and new development with housing, primary school, shopping was stimulated around the park. With the construction of these developments, the traffic to the park was improved as well. It is believed by the judges that "already this new park seems to be having a very positive impact on the surrounding area, which is rapidly being developed into housing" (*Garmory all etc 2005*).Another example is Piccadilly Garden in Manchester. After its construction, its important as a public transport hub increased, as a result, "the surrounding area has received significant further public and private investment since 2002(Rowland Byass)".

With the important public space renovation and new construction, walking-oriented environment took place, and high-quality facilities and comfortable housing will be provided, which attack people back to the city center.

4.4 Influences of art

4.4.1 Role of art

Modern art is the most fundamental form source of the modern architecture and modern landscape architecture. The artist's creativity is always much richer than the designer, and their reaction about the spirit of the times is much more sensitive than the designers. From the beginning of the 20th century, lots of art including Cubism, Surrealism, Constructivism, Land art, pop art, Minimalist have provided suitable

design languages for the designer, which have had a profound impact for landscape architects. Many British landscape designers work closely with the artists and are inspired by them. For example, British landscape designer Geffrey Jellicoe has inspired by Paul Klee (1879-1940) -an artist. Thomas Heatherwick, Antony Gormley ,contemporary artist, inspire landscape architects by his sculptures(such as B of the Bang, Manchester and Angel of the North in Gateshead respectively) using materials innovativly.

Art and landscape are inseparable, and art is the subtle inspiration for design. It is believed that "Art can act as the eye opener: both telescope and magnifying glass. Landscape architecture provides a change of scenery whilst art provides a change in perspective."(Lee all, etc. 2007). There are two aspects that landscape architecture is influenced by art: on the one hand, art has a direct impact on the spatial form of the landscape. Because of the influence of art, from the late 19th century to today, landscape architecture has broken the traditional rules of design style in Europe, and surpassed the picturesque style of English garden which simulates nature. After a century of development, landscape architecture has formed new aesthetic and form style. On the other hand, art as the design element is reflected directly in the landscape (Such as the public art and landscape combination.)

4.4.2 Art leads to richer Language of space and form for landscape architecture

In many works of landscape architects, it is easy to find that art is translated to design language for landscape architecture, and this conversion has also enabled us to understand the great potential - thinking relationship between landscape architecture and ar . This is undoubtedly greatly enriched the data of landscape shap

Space type	Artistic influence	Spatial characteristics	Representative works

Geometry order space	Abstract art Minimalist Structuralism	Geometric space Composition Expressing order	Thames Barrier Park, Peace Park, Royal Victory Park, Triton Square
Allosteric dynamic space	Cubism(Multi-view observation) Deconstruction(non-rational spatial distribution)	Space interspersed freely, Allosteric, Emphasizing the spatial complexity contingency	Pottersfield park , Edinburgh Paliament Landscape

4.4.2.1 Rational space - geometric order

Figure 4.1: Overview of Tames Barrier Park

Souce:http://www.architectureweek.com/cgi-bin/awimage?dir=2002/0529&article=de

sign_1-1.html&image=11824_image_2.jpg

Figure 4.2: Aerial view of Triton Square

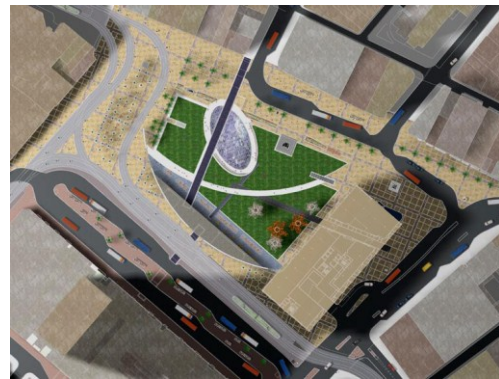Source: http://www.britishland.com/

index.asp?pageid=42&newsid=206

Figure 4.3:Overview of Picadelly Gardens

Source: Rowland Byass

"Rational" is the capability that human beings prefer to seek causality. In terms of methodological, it respects the logical form, paying attention to reasoning, gainsting the subjective and arbitrary, and believing that everything can be drawn by reasoning and mathematical. Simple, regular repetition, and geometric symmetry are the products of human reason. Space geometric features include Euclidean, fractal, topology, and Euclidean space is the foundation of forming rational space. Space and form created by rational design are expressed as different traditional geometry. Both plane and space could be parsed out the cuboid, cube, cylinder, sphere or cone geometry or geometric combination by using of certain methods and rules.

In terms of plane, Modernist landscape architects usually prefer to the solemn abstraction-simple combination of structured implicit order of graphic composition. This approach is effected by the abstract painting of Piet Mondrian. Inheriting abstract style created by Kandinsky, Mondrian explored and developed a kind of geometric abstract style which is completely different from the former romantic abstract painting, inspiring landscape architects to explore a relationship between landscape and surrounding buildings in the geometry, emphasizing the clarity of structure and

space continuity. The geometry, modern vocabulary of landscape space has unique charm in the complex and diverse types of form, coinciding the skeleton of the city with modern linear pattern and architectural style that body mass is clearly.

In addition, the minimalism appeared in 1960s has a significant impact on the landscape architecture. Minimalism emphasizes form with simple and pure and simple repetition. In fact, behind the simple appearance of minimalist works of the artist, it is the artist's desire and pursuit about life and the social order. The main feature of minimalist form is simple, clear, using simple geometry frequently, representing the objective object instead of the spirit, abandoning the association, using industrial materials such as stainless steel, anodized aluminum, glass, etc., and has similar aesthetic with contemporary industrial civilization. Minimalist pursues abstraction, simplification, geometric order. In effect, Minimalist has many similarities with Stijl and Constructivism which played a key role for the production and development of modern architectural design and landscape design. So it is easy to understand that minimalist have a considerable impact on landscape design.

In the highly artificial cities, extremely natural landscapes architecture often seems too incongruous, so urban landscape architecture tends to choose the geometry and coordinate with urban fabric. For instance, Triton Square in London, Tames Barrier Park in London and Picadelly Garden in Manchester are designed as geometric order.

4.4.2.2 Non-rational space - free allosteric, dynamic equilibrium

1. The Thames.
2. The Tower Bridge.
3. The Greater London Authority.
4. River walk paved Blue Irish Limestone.
5. White Granite seating steps.
6. High quality lawns.
7. Blossom tree planted square with kiosk by DSDHA.
8. Delft bench.
9. Resin bound gravel paths.
10. Earth Sculpted mound.
11. Parkside kiosk by DHDSA.
12. Multi stemmed birch 'veil'.
13. Sunken grass bowl.
14. Events access route.
15. Brick paved meandering walkways.
16. Herbaceous garden by Piet Oudolf.
17. Decorative ductile iron entrance screens.
18. Tooley Street.

Figure 4.4:Overview of Pottersfield park

Source: http://spencer-darg.blogspot.com/2007/07/potters-field-park.html

Figure 4.5:Landscape of Scottish Parliament Building

Source: http://www.abbs.com.cn

Traditionally, art is considered as the imitation of the natural world In Western culture . Classical aesthetic principles of painting can be summarized as "imitating nature." Therefore, the initial British parks are picturesque landscape imitating the natural landscape. Since the beginning of the 20th century, some Western artists began pushing the status and role of the subjective spirit, that the exact description of reality does not equal to the true of art, rather than represent fundamental purpose and mission of art, and expressing, revealing the person's subjective mental world is the essence of the arts.

Based on this proposition, modern art focus on the mind real, real sense objective, compared with traditional art focusing on reality and visual reality. After the emergence of modern art, abstraction is the main performance characteristics - the most important factor forming new artistic language. Some contemporary landscape architects pay attention to the handling of a dynamic balance. This approach stems from the artist K. C. Idalevich. Malevich's "supremacy" drawing shows the layout of dynamic, giving a freedom of expression. Malevich is an important pioneer of geometric abstract style, but his abstract style is very different with Mondrianl's style. Mondrian's geometric composition is very clear and explicit, which is under the control of form of rule, but   K. C. Idalevich's geometric abstraction has shown direct revelation of freedom and feel, so the order of picture is inherent,   impliciting behind the form . His work has a strong form of rhythm, creating a unique graphic form. This graphic form uses a kind of dynamic implicit axis, creating a composition of the balance in the painting which looks like fragment.

Traditional landscape space is geometric or is about simulating the nature. Nowadays, the world is in a chaotic situation, and the modern science reveals the relative nature of things that is non-deterministic, incomplete, which change the old people's overall view of the world (rational, holistic, assured). Cuboid, cube, cylinder, sphere or cone geometry and other geometry based on a combination of Mathematical relationship cannot meet people's desire for space. Modern art including Cubism,

Surrealism, Expressionism influenced modern landscape space significantly. Designers no longer seek the order of geometry, and some of them break rules of fixed space, through specific design techniques including rotation, superimposed deformation, variation, shift, cut short, contains, interspersed, mosaic, links, etc. According to superimposed, staggered, interspersed between several different geometry, complex space which clear continuity vague and ambiguous is created, reflect the uncertainty and endless changes. The flow space with complexity, contradiction, and uncertainty has changed the meaning of the geometry of space. This deformation and vague space provided alternative space experience. For instance, the space of environment of the Scottish parliament building and Pottersfoeld Park in London are free-flowing and dynamic.

4.4.3 Combination of public art and landscape

The urban public space is shared by people, providing a place for daily activities, communication, connection, and an irreplaceable role of expressing urban culture, stimulating urban vitality, and promoting people contacts. Facing the problems of urban public space and new features of the development contemporary art, designers boldly attempt to place contemporary art in public spaces, trying to increase communication opportunities between people and public art. Public art has flexible forms, making strong links with different space, and taking into account the actual needs of people and place characteristics. On the other hand, artwork expresses the designers' ideas. The strong visual appeal of contemporary art can be the catalyst to shape vibrant public space.

For instance, artwork of peeping holes was integrated in Ancoats project; Landmark of three "light wands" was created in Bulling square in Birmingham; Olympic Park Tower, the UK's largest sculpture will be constructed in London Olympic Park.

Figure 4.6:Olympic Park Tower

Source:http://www.propertyweek.com/pictures/458xAny/3/7/0/1663370_Orbit_

View_2.jpg

Figure 4.7: Landmark in Bulling square in Birmingham

Source: http://www.gross.max

4.5 Landscape architecture and sustainable development

In recent years, people began to realize the damage caused by pollution, and people's awareness of the environmental crisis is awakened. In Britain, sustainable development has been brought in Town and Country Planning Act since 1990. All of the projects which have a certain size or in a certain region must provide Environmental Impact Statement when planning proposal is made. The "environmental impact statement" asks to clarify the basic requirements of environmental conditions and develop recommendations, and to propose specific measures in order to reduce the adverse impact on the environment caused by projects. In other European countries, sustainable development is also been paid attention. For instance in Germany, sustainable use of water resources within the landscape project is outstanding in the world. In 1996, new provision of sustainable usage of water was added by Federal Water Act. After that, State laws provide that: rainwater must be effectively retained and used in a new development project, and rainwater cannot be discharged into the public pipe networks except specific circumstances. Currently, the British landscape is increasingly focusing on sustainable development, which is concerning about the location of current and future environment and believes that landscape should have lower maintenance costs, higher social benefits, and long-term ecological stability. In other words, a self-sustaining landscape should be sustainable development. United Nations World Commission on Environment and Development (1987) believe that sustainable development is "development which satisfies the current needs of society without compromising the needs of future generations".

Mile End Park, in London, especially emphasize on sustainable development in order to reflect the spirit of the 21st century. In 1995, the Millennium Commission proposed to develop the project, and Mile End Park Partnership was created for organizing the

design competition , cooperating with local communities.

Award-winning proposal tried to design a model for the 21st Century Park, and TibbaldsTM2 was responsible for overall planning while Community Land Use Group was responsible for landscape design.The core of the design concept is principle of sustainable development, and specially emphasis on community participation in environmental ecology. This approach determines the design style and the design details. The wind turbine with 6.5kw reveals the feasibility of wind power. Anaerobic decomposition is used to reduce organic waste and produce energy. Water comes from drilling which pump water from aquifers -90m underground. Solar is used for outdoor lighting. In order to facilitate community participation and education activities, two new eco-buildings with casing were constructed in the ecological park. All of these measures are used for reducing resource consumption and operating costs. In UK, it is always very important to achieve economic sustainability in order to maintain the park as a certain quality. Because the park is located in poor areas of London, the local government uses diverse methods including charitable donations, renting shops, training local residents as administrators to ensure the park's maintenance and development.

2012 London Olympic Park is being transferred a brownfield site to the largest urban park in the Europe and sustainable new quarter of London.　Olympic Park planning not only concerned about the use of the venue during the Games, but also proposed long-term strategic planning for sustainable using after the Games. Some stadiums will be retained, and the Olympic Park will be transformed as parkland including riverside landscape, open space and woodland. At the micro scale, such as material selection, water usage, energy usage in the park will also follow the principles of sustainable development. For instance，reuse and recycling of materials was maximized in the process of construction. For instance, "more than 200 buildings were demolished before construction could begin, and 97% of material was reclaimed during demolition, reused in the creation of new park"(Olympic Delivery Authority,2010.) A large number of contaminated soil was treated by a soil hospital

which washes, filters and separates soil from contaminants for recycling. Using new method, polluted groundwater was cleaned. Old habitats for wildlife were protected, and new wildlife habitat was created. In terms of venues, they were designed as energy-efficient ones, and some of the roofs would collect rain water using for irrigation and toilet flushing.

Chapter5　Conclusion

During the study, I have a more comprehensive understanding on the practical activities of the public landscape in the UK in the past 20 years.　Since the beginning of the dissertation, I have been asking myself a question, that is, "how we can learn from the British landscape architecture to promote the development of the landscape industry in China？". Except the characteristics discussed above, which are worth learning, I also find that although there are differences in the design process, the color, and the materials between the landscapes projects in the UK and China, but they cannot be directly copied because they are closely related with the local culture and the aesthetic practices. However, there is indeed something worth learning from some systems. Therefore, I have identified these points:

5.1　Public participation

During the design process of the landscape projects in the UK, public participation is very common. Planning should be with people rather than for people. The program will be publicized or delivered to the surrounding residents by leaflets. Large-scale landscape projects will be publicized in the website for the public to express their views. The timely and effective public feedback will have the direct impact on the modification and implementation of the projects. For instance, I have ever participated in the Stanfield Estate Project. During the design process, public consultation was held several times to listen to the views of the local residents, and their views were reflected in the design modification plan. On the contrary, in China, most of the landscape projects are implemented by a top-down design system, and the government plays a significant role. The depth and breadth of public participation are not enough. In China, there is no practical public participation in most of the construction projects. Landscape planning and design are to serve people, so the

design must be involved in public participation. Thus, the design will be more perfect, rational, scientific and objective. Therefore, learning from the British approach, public participation should be encouraged by way of public participation in the discussion on the planning and design program, publicity of the design program and models online, organization of public consultation, and questionnaires and so on.

5.2 **Mature system of chartered landscape architects**

The predecessor of the Landscape Institute is the Institute of Landscape Architect, which was established in 1929. With the increasing expansion of the professional scope of the landscape architect, its name was changed into the Landscape Institute in 1978. In the UK, there is a mature landscape registration system. The concept of the Professional Practice Examination is "life-long learning". In the procedure, study is under the guidance of instructors, and regular assessment in work is consistently implemented. After all the items are recognized, the applicants can take part in the oral test organized by the Landscape Institute. If they succeed in passing the test, they will become the formal members of the Landscape Institute, namely, registered professional landscape architect. Now, there are about 5000 registered members in the Landscape Institute, of which about 50% work in private firms, while about 50% work in the public sectors such as government offices, schools and so on. They play an important role in ensuring the high-quality of landscape planning design.

Through the introduction of the Landscape Institute and the British Examination System of Registered Architect, it can be seen that the landscape industry in the western developed countries including the UK has reached a relatively mature level. By comparison, although China has a long history of garden design, there is still no landscape registration system. On the contrary, there are registered systems for architects and planners. During the rapid urbanization process in China, a large number of landscape design projects emerged. In the face of great market needs, many people from different professions and backgrounds are engaged in the creation of landscape architecture, resulting in the mixture of bad and good designers in the

industry and uneven design levels. Therefore, China should learn from the UK, and establish a landscape registered system as quickly as possible to improve the professional standards of the industry.

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