

Research on the Design of Sports Park Based on the Theory of Urban Double Cultivation

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Abstract: In general, every sports park in the urban space environment is a collection of cultural essence of a city and a region, which reflects the cultural imprint of the historical era, is the cultural fusion substance of a specific period, and has distinctive characteristics and cultural context that distinguish itself from other regions; Sports parks not only witness the history, but also foresee the future; The rebirth of sports parks is mainly carried out in the two dimensions of protection and innovation. It is necessary to take its essence, eliminate its dross, develop in protection, and innovate in development. Methods GIS, bibliometrics, knowledge atlas, human factors and efficacy and other tools were introduced into the research of sports park design based on the theory of urban double training to enhance the scientific, persuasive and logical nature of sports park design. Conclusion The re-research on the design of sports parks based on the theory of urban double repair is guided by the specific content and requirements of urban double repair, and properly handles the relationship between the past and the present, the present and the future with appropriate scale and scale. It achieves the integrity of the development of each piece of land and each piece of urban area through urban organic renewal, and achieves the organic unity of sports parks and the city as a whole, To realize the improvement of urban planning quality and the sustainability of urban renewal, and finally move towards a new organic order.

Keywords: sports park design; Environmental design; Urban double repair

1. Introduction

Sports parks are entrusted with the emotional memory of a generation, reflect the enduring cultural crystallization, condense the artistic ingenuity of a specific historical period, retain the historical context with a long history, and inherit the unique urban gene. Therefore, it is necessary to protect and update sports parks to create a unique gene map of a city, build a unique urban style, continue the historical context, and inherit the historical culture, Let the homesickness and nostalgia return to some extent, the folkways can be continued, and the homestay can be inherited, so that the appearance of the block can be improved, with a sense of history and a sense of the times (selected from part of the author's master's degree thesis). In this paper, the design of sports park will be further explored and discussed in more dimensions.

2. Research Background

The research is mainly based on the theory of urban double repair. "Urban double repair" refers to ecological restoration and urban repair, which is an effective means to cure "urban disease", improve human settlements and change the way of urban development. It is planned to repair damaged mountains, rivers,

wetlands and vegetation step by step. The pilot cities can explore or try out the organization mode, planning and design concept, engineering technology, fund raising, mechanism and system, evaluation criteria, etc. Secondly, the research plans to introduce GIS, bibliometrics, knowledge maps, human factors and efficacy and other tools to enhance the scientific, persuasive and logical nature of sports park design. At the same time, the topic that the author has been discussing in detail in the past three years is the research on the design of "planning", "regeneration", "transformation" and "optimization" of traditional streets. The research on the design of sports parks based on the theory of urban double cultivation will be based on the author's existing research results for further exploration and more dimensional discussion.

Previous studies by Li Yanbin and other scholars mainly focused on the urban space environment and the "planning", "regeneration", "transformation" and "optimization" design of traditional streets, hutongs and alleys, mainly based on the "symbiosis" theory in the ecological category, the "collage city" theory proposed by Colin Rowe, the "organic renewal" theory proposed by Wu Liangyong Professor Wu Mingwei put forward the "systematic" old city renewal principle and two urban renewal models, namely, "top-down" and "bottom-up". The main research cases focus on the Nirvana rebirth of Tianzifang Historic Block, Chengdu Kuanzhai Alley, Beijing Ju'er Hutong dilapidated old house reconstruction pilot project, the sustainable regeneration design of Beijing Nanluogu Lane Historic Block, the reconstruction of Beijing Xiaohougang, Suzhou No. Neighborhood, etc. The design practice focuses on the research on the regeneration design of the traditional blocks of the Yuhe River in Bianjing and the five hutongs in the east of Dawu. Through the research and experience summary of the "regeneration" and "transformation" design of the urban space environment and the traditional blocks, hutongs and alleys over the past three years, he has a preliminary understanding of the optimization, transformation strategies, methods and research technology routes of the traditional blocks, and has a preliminary grasp of the future research direction. It also provides technical route and theoretical support for the design and research of sports parks based on the theory of urban double training. It is hoped that GIS, bibliometrics, knowledge atlas, human factors and efficacy and other tools will be introduced in the future research of sports park design to enhance the scientific, persuasive and logical nature of sports park design.

3. Research Contents and Methods of Sports Park Design based on Urban Double Cultivation Theory

First, on February 21, 2016, Xinhua News Agency released the Opinions of the Central Committee of the Communist Party of China and the State Council on Further Strengthening the Management of Urban Planning and Construction (hereinafter referred to as the Opinions), which proposed that "urban repair and organic renewal should be carried out in an orderly manner to solve the problems such as the decline of the environmental quality of the old urban areas, the disorder of spatial order, and the destruction of historical and cultural heritage...". Secondly, under the active promotion of the Ministry of Housing and Urban Rural Development, the urban double training was launched in Sanya. It is a method of urban renewal with Chinese characteristics, and it is proposed based on the transformation background of urban planning from incremental planning to stock adjustment (selected from part of the author's master's degree thesis). The sports park is an important node in shaping "high-quality and humanized" public space and building "harmonious and livable city and improving urban governance". It is a concentrated interpretation of humanized design, an important embodiment of the spirit of "people-oriented, sincere and responsible", an important link in enhancing the people's "sense of gain, happiness and security", and a new landscape of "honesty, kindness, love, integration of disabled and health, and sharing beauty".

Secondly, in terms of the construction of relevant research strategies, it intends to base itself on the background of differentiation and the new paradigm of contemporary scientific exploration - interdisciplinary research, with the intention of giving the sports park design research based on the theory of urban double cultivation a research rich in scientific data support, historical data confirmation, meticulous logic and rational structure. For example, the discussion logic adopted in the research report written by the author for the Second Liaoning Postgraduates' "Intelligent Human Settlements and Healthy City AUL Innovation Research Competition" and the "Tianjin Development Technology HFE Award National Human Factors and Ergonomics Innovation Competition Cultivation Project" during the period of studying for the master's degree: the way and

method adopted by the author for urban space optimization research is based on a mature and complete theoretical basis (such as "Symbiosis" theory, the "collage city" theory proposed by Colin Rowe, the "organic renewal" theory proposed by Wu Liangyong, the "systematic" old city renewal principle proposed by Professor Wu Mingwei, etc.), because the practical research without theoretical guidance and support is not scientific and logical; Secondly, in order to increase the persuasiveness, credibility and visibility of humanities and social sciences research, it introduced such tools as bibliometrics, knowledge atlas, MATLAB data visualization platform, analytic hierarchy process, and GIS to try to quantify and specify the abstract concept of "symbiotic city", so as to analyze the internal dynamic mechanism that promotes the evolution of the spatial trajectory of the block, the historical transformation of the block mechanism, and the innovation of the block style and features; Thirdly, it puts forward the optimization strategy of "symbiosis" of Shenyang Xita block, combining the block gene, traditional culture, material and intangible cultural heritage and other cultural contents of the block from the perspective of contemporary culture; Finally, the core of urban space optimization and transformation is based on humanism. In order to make the research scheme humanized, reasonable and scientific, the research strategy in the above two research reports tries to introduce "human factors and ergonomics", For example, in 1959, Hall put forward four kinds of interpersonal communication distance (intimacy, personal, social, communication distance) and human observation scale (45, 27, 18 degrees of elevation) and human behavior habits (walking patterns, activity groups) and human activity types (necessary, spontaneous, social activities) In the Exterior Space Design and Street Aesthetics, Japanese contemporary famous architect Yixin Lu Yuan (1918-2003) expressed the dialectical relationship between the width of street space and the height of structures, hoping to clarify the specific planning indicators, and make the proposed "symbiotic" optimization strategy of Shenyang West Tower block fit with the physiological and psychological characteristics of people through the above limitation of human factors and ergonomics theory, To improve the efficiency of the whole symbiotic system.

4. Research Steps of Sports Park Design based on Urban Double Cultivation Theory

The first stage - theoretical research: first of all, investigate and read relevant literature, make a preliminary understanding of the sports park design research based on the theory of urban double training, clarify the historical background before and after the urban double training and its similarities and differences with the sponge city, and clarify the specific requirements and theoretical connotation of urban double training. Secondly, based on the conclusion that "without understanding history, we can't deeply understand modern times, and without understanding history, we can't accurately predict the future", we further comb the research status of sports park design and research at home and abroad based on the urban double cultivation theory, and understand the characteristics, strategies, advantages and disadvantages of sports park design and research in different historical periods, different political, economic and cultural backgrounds, These design strategies naturally bear a deep historical imprint and solve the urban development problems in a specific historical period. Thirdly, research the professional theory of sports park design. Clarify the emphasis of different theories and the similarities and differences of sports park design under the guidance of different theories. The second stage - case study: conduct in-depth research on the design practice of sports parks under the guidance of different theories, and give a clear description of their characteristics and existing risks or problems. The third stage - tool research: actively introduce the new paradigm of contemporary scientific exploration - interdisciplinary research. That is to say, the role of bibliometrics, knowledge atlas, MATLAB data visualization platform, analytic hierarchy process, GIS and other tools in the design and research of sports parks will be deeply analyzed to make the design more "rational". The fourth stage - practical research: by completing the research on the above related theories, tools and cases, he has a clear understanding of the strategies, methods and research technical routes of sports park design research based on the theory of urban double cultivation, that is, the innovation of this topic lies in the introduction of interdisciplinary research paradigm. First of all, based on a series of basic theories and principles, mechanisms, algorithms, models, etc. such as ArcGis, bibliometrics, knowledge atlas, fuzzy comprehensive evaluation, analytic hierarchy process, Matlab, etc., the site environment is deeply investigated to achieve data acquisition, so as to more accurately analyze and judge the site and surrounding data, frame the basic algorithm and implementation plan, and more directly express and analyze ideas, Visualize the data.

Specifically, the elevation, aspect, slope, catchment line, ecological hydrology and lighting, thermal density, skyline and other data in the site environment are analyzed quantitatively, and data visualization is achieved through bibliometrics and knowledge atlas, so that one picture can be more than one thousand words. And make the design more "rational" through data. Secondly, the theory of human factors and ergonomics is introduced to make it a tool to test or limit and improve the above achievements and data, so that the space environment to be optimized and transformed can become a human machine environment system coordinated by human, machine and environment. Finally, we can quickly sort out various spatial structure relationships and complete the site planning+regional planning in a large scale. It is expected that the past and future will be the same in the present, and the rupture of the context between tradition and modern will be bridged, so as to seek a diversified, coordinated and dynamic inheritance operating mechanism between the two.

5. The Historicity of Sports Park Design

The historic nature of sports park design is rooted in the development of environmental design. The rise of environmental design at the end of the 19th century and the beginning of the 20th century was based on modern environmental science, social science and technological mutation and scientific and technological progress. In the history of the development of art design, the industrial revolution at the turn of the century is undoubtedly a huge driving force to promote the occurrence, development, maturity and change of modern design, which finally led to the formation of a modern design concept with profound context, strong theoretical basis and extensive influence. The foundation of modern environmental art design in China is also affected by the elite movement of intellectuals with distinctive socialist color, rebelling against the Victorian wind, eclecticism and classical revival; It started from the reform and opening up in the 1980s and gradually matured from a new discipline. Under the influence of multiple factors such as increased domestic demand and stable market economy, it was listed as a first-class discipline in the Academic Degrees Awarding and Talent Training Disciplines Catalog. At the same time, environmental art design, as a branch of modern art design, inherits the basic connotation of modern design. That is to say, environmental art design, which is subordinate to modern art design, is also a design art that integrates "technology", "art", "social culture", and "function is greater than form". In a narrow sense, it is a kind of design art that integrates interior space. The practical art aimed at the outdoor space and the transitional space environment between them is not "on the shelf" art. The realization of the practical purpose it pursues depends on the integration of technology and art, the innovation of art design, and the means of art design. The broad sense of environmental art design involves many subjects, fields and disciplines, including sociology, chromatics, optics, psychology, etc. It also has a wide range of contacts and is closely related to architecture, landscape, structure and planning. Based on a simple analysis of environmental art design, this paper expounds the current situation of environmental art major in colleges and universities in China, the problems in the development process of environmental art design, and the future development trend with the perspective of contemporary culture.

During the industrial revolution, modern art and design emerged at the historic moment. Human beings replaced manual labor with machines. People no longer only paid attention to the quantity of products, but more and more tended to pay attention to the practicality and aesthetics of products. Practicality and aesthetics became the subsidiary conditions of product quality standards. In the 1920s and 1930s, Bauhaus and Ulm Design Academy perfectly combined technology and art, and promoted the practicality of products with modern science and technology. To meet the requirements of formal beauty with art, contemporary art design needs to fill in the scheme design, drawings and market research before production, and needs to understand the market demand and user feelings. The development of art design at each stage is moving towards the direction of more mature theory, more perfect system, more perfect structure and more refined fields. Luigi Colani, a contemporary industrial design master who is known as the contemporary "Da Vinci" and also the most famous and subversive designer today, invented a unique bio form by using curves according to the laws of nature he firmly believes in. In the 1970s, he will widely apply it to the design of ballpoint pens, fashion, cars, buildings and handicrafts, It not only breaks the inherent design boundaries of designers, but also promotes the leapfrog development of industrial design in the world.

With the change of social needs, contemporary art design also subdivides into different types, such as indoor environmental art design, outdoor environmental art design, UI design, book design, digital media, art and technology, such as space design or environmental design (represented by interior decoration, landscape design, architectural design, planning design) Graphic design or visual communication design (represented by production, printing, dyeing and weaving, posters, billboard design, etc.). With the trend of social development and the awakening of localization, local consciousness and national consciousness, contemporary environmental art design in China is gradually recognized by more people and has a better industrial structure system.

The overall ideal of the sports park design research based on the urban double cultivation theory is to stand on the "cultural heritage, old city revitalization, and resource linkage", jump out of the shackles of the sports park design's transition to commercialization, following the law, and unchanging, and to re-examine the contemporary application of local culture from the multi-dimensional perspectives of art, architecture, sculpture, drama, design, communication, consumer psychology, sociology, etc. It is planned to build a cultural complex integrating commercial tourism and cultural tourism to realize the beautiful transformation of the sports park. At the same time, the research is committed to creating a humanistic life experience area that integrates "comprehensive protection, global tourism, the whole city and one landscape, and the whole industry chain". It is hoped that the research on the design of sports parks based on the background of urban double cultivation can explore a new path for the improvement of theme parks, lay a new standard for the overall transformation of old sports parks, and open a new dimension for the application of landscape aesthetics in the 21st century.

6. Development Trend of Sports Park Design

At present, there are a lot of urban quality improvement projects based on sports parks, but few of them are famous and successful in achieving the magnificent transformation of urban sports parks; Moreover, the excessive introduction of commercial formats not only breaks the original privacy, authenticity and integrity of the residential area, but also increases the risk of the affiliated culture of the sports park moving towards cultural variation, which increases the risk of the hollowing and loss of authenticity of the urban sports park, and makes the cultural project that should be a unique "local dish" become a "cultural instant noodle" that follows the rules and regulations.

With the development of economy, the progress of digital technology and the improvement of people's requirements for living environment and social environment, sports park design has become more and more important in national life, and "respecting nature and following nature" has become one of the social responsibilities of designers in the field of environmental design. How to better handle the relationship between human and nature runs through the designer's design process, which requires contemporary designers to pay attention to nature, Reduce the impact of human factors, integrate resources, create an environmental design concept that meets the requirements of the times, and create an industrial model that meets the efficient development of the times. At the same time, we should also speed up the reform of the educational concept of environmental art design, the innovation of teaching methods, and the innovation of teaching methods. The innovation of the educational concept and teaching methods of environmental art design is not only the practical need of educational reform, but also the direction and practical goal of future educational development. Finally, under the great influence of western modern design trends, the internationalist style of modernism has swept the world, and the national and regional characteristics of design are hidden behind the internationalist style highlighted by homogeneity. Chinese designers should dig deeper into regional characteristics, be good at making use of the latest scientific and technological achievements, take the road of scientific and technological intelligence and wisdom, that is, use scientific and technological achievements to enrich historical details, enhance cultural continuity and cultural integrity, Highlight the local cultural characteristics and improve the continuity of cultural layers (this paper is rewritten according to the first author's master's degree thesis "Research on the Regeneration Design of the" Collage City "Theory in the Bianjing Yuhe Traditional Block" and "Research on the Regeneration Design of the Bianjing Traditional Block Based on the Theory of Urban Double Cultivation and Applied Psychology").

7. Conclusion

The research on sports park design based on the theory of urban double repair focuses on the urban double repair theory. First of all, it is planned to strengthen the urban design of key areas, key sections, important nodes, etc., shape the urban characteristics with the design of sports parks, highlight the charm of the city, highlight the urban customs and memories, and establish and improve the urban design and infrastructure planning system to open the dust laden nostalgia of the city. Secondly, it is planned to actively and steadily promote the improvement of the living environment of the historical urban area and the historical and cultural blocks through the design of sports parks, carry out the listing and filing of historical and cultural blocks and historical buildings, and further strengthen the overall control of the style and features of the historical urban area.

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