

Study on the Landscape Design Strategy of Urban Old (Abandoned) Railway

-- Taking the Section of Jingmen Railway Station Wuluju to Shijingshan as an Example

Yonggang Ren, Sicong Guo

North China University of Technology, Beijing, China.

Abstract

In the process of urban development in Beijing, the functions and forms of its regions need to be constantly updated and utilized. As an important legacy of urban development, the railway industrial site represents its future development direction. Because of the particularity of the policy and form of the railway industrial site, it has become an "historical factor" that is difficult to shake in urban development. In this paper, through the introduction, analysis and reconstruction of the "Genius Loci" theory, it attempts to break the closedness of the place and re-discuss the landscape design ideas and means of the abandoned railway line in the city.

Keywords

Abandoned railway, Genius Loci, phenomenology, landscape design.

1. Introduction

1.1. Research Background

Due to the particularity of domestic policies, abandoned railways have been idle for a long time in the urban fabric, which not only affects urban development, but also affects the lives of residents. Therefore, the transformation and renewal of abandoned railways is imminent. In order for the place to maintain its history and culture, it also strengthens the connection between the place and people, and enhances its own value and attractiveness. This article attempts to synthesize the landscape design methods of the New York High Line Park and Xiamen Railway Cultural Park, starting from the Genius Loci theory and rejuvenating the abandoned railway.

1.2. Status of the Site

The Jingmen Railway is also known as the Jingmen Branch Line (hereinafter referred to as the branch line), which is the auxiliary branch line of the Beijing-Zhangmen Railway built by Zhan Tianyou. It started from Chegongzhuang on the south side of Xizhimen, passing through Tiancun and Shijingshan stations, etc. The purpose of its construction was to transport the coal produced in Mentougou Shougang Industrial Park to Xizhimen. Later the railway from Xizhimen to Wulu section was demolished, leaving only Wulu Station to Muchengjian Station (see Figure 1 on the left). Judging from the venue of this paper, the selected section of Xihuangcun Station is the core area of theoretical practice in this paper. The current status of the venue is shown in the right of Figure 1, although the branch line still carries the transportation business, its influence on the surrounding environment has only increased. The existence of the branch line not only divides the urban texture, but also becomes a gathering area of urban instability factors. Its basic problems are complicated, there are a large number of illegal structures in the protected area, and the ground treatment is inconsistent (see Figure

2) ... How to remediate and eradicate has become an urgent problem to be solved within the scope.



Figure 1. The current situation of Jingmen branch line and Xihuangcun railway station
(Image source: Author's self-painting, Google Maps)



Figure 2. Problems in reality (Photo by the author)

2. Origin, Development and Perfection of Genius Loci

2.1. Origin of Genius Loci

The theory of Genius Loci first appeared in Norberg-Schulz's "Genius Loci, Towards a Phenomenology of Architecture" (hereinafter referred to as "place"), and the author named it as architectural phenomenology. The purpose of this book is to express that loci are based on physical spaces, and genius is all factors related to phenomenology that cannot be qualitatively and quantitatively analyzed. In this book, the genius loci is divided into two essential elements by the author: Characteristics and Structure, and an optional element: Time (see Figure 3), Characteristics and Structure are essential factors, and the former includes two factors, one is the comprehensive atmosphere of the place, and the other is the force of the structure of the place; Time is given the role of maintaining the mental stability of the place, and it is also related to the identity, sense of direction and place center formation theories.



Figure 3. Characteristics, Structure, Time (Photo source: Illustration of "Genius Loci, Towards a Phenomenology of Architecture")

2.2. Metaphysics of Genius Loci: Philosophical Background

The Genius Loci originated from Martin Heidegger's related theories such as "existing and living in the world". Shu's metaphysical definition of architectural design through Hai's theory, but there are theoretical contradictions in this process. His description, analysis and classification methods all violate the definition and method of phenomenology, and the essence of

architectural phenomenology should be architecture rather than philosophy. In perceptual phenomenology, the Genius Loci has obtained the opportunity to transition from theory to practice. By comparing with the theoretical views of the traditional depth theory and the Gestalt, Merleau-Ponty proposed such as "body-subject, motivation-situation-decision" and other theories, the former denies understanding this as the existence of an object (torso) and consciousness, the latter creates a premise for this way of Dasein, based on which Steven Hall developed his own Architectural language: Nine Phenomena Areas: tangled experience, perspective space, color, light and shadow, spatiality of night, continuous perception and time, water (phenomenon mirror), sound, detail, but like Shu's theories, The nine phenomenon areas served as a tool and do not tell people what the Genius Loci is.

2.3. Physics of Genius Loci: From Philosophy to Architecture

The Genius Loci discusses the composition of the Fourfold based on the relationship between man and space through "building and thinking", and determines the way in which existential things are established, the latter emphasizes the function of the "memory and recollection" in human perception as leading role of the establishment of Genius Loci as the existential meaning of time simultaneity. The discussion of simultaneity is in the past-present-future structure that constitutes things (places), so it basically determines the logical way of presenting things: namely the theme (remembrance, memory) guidance, perceptual means cooperate with the construction of the Fourfold. In the course of the development of existential phenomenology, Hai's thinking is the current status of the separation between human realities and the Fourfold. This status is still more and more obvious today driven by the Internet and information technology.

2.4. Theoretical Perfection of Genius Loci

The purpose of this section is to try to perfect the means of constructing the Genius Loci by constructing the Fourfold and supplementing the cultural and historical factors under the theme category. The method of constructing the Fourfold is the establishment of the space-time of things. Through the study of Li Kaisheng's "Magnification-The Exchange of the Roles of Time and Space", the meaning of the space-time of things is analyzed, and the "Preparations and Changes" are determined, they also constitute the temporality of things, and "Circumstances and Situation" together constitute the spatiality of things, and because the temporal meaning of preparations confirms that the spatiality of things implies temporal meaning, so the spatial and temporal attributes of things It happens at the same time, and the two are constantly transforming each other, the daily expression of things, and the spatiality of all things is a universality, which is Hai's "connotation structure". In summary, the spatial nature of things is to describe the various potential relationships that have not yet occurred, the current and have occurred. The nature of time is the change and creation of things, and the synthesis of the two properties is the meaning of its existence.

This section also determines the unity and mixture of culture and history through the clarification of the meaning of cultural and historical factors, the complexity of the inherent composition of culture and the diversity of historical events and various things, but the Genius Loci has gradually become a methodology, the simultaneity of time is also different from culture and history, they are not the relationship between who contains but the interspersed and utilized, the rich connotation of the latter can also be used as an alternative theme to guide and supplement.

2.5. Summary of This Chapter

The Genius Loci is a mixture of theories. Through the overall grasp of the place, it shows the spatial and temporal nature of things, in order to construct the Fourfold of things, and refine

the design of things under the leadership of the theme, whether or not people in this there, they can feel the existence of the Genius Loci.

3. Genius Loci and Landscape Design

This chapter actually discusses the relationship between the theme, the means of realization of perception, and space-time of landscape design. At the non-theoretical level, the actual conditions of the place should be reviewed first, the basic functions of the place should be sorted out, and finally the location and proportion of the infrastructure should be determined; at the theoretical level, under the premise of grasping the world of the place, the space and time of things should be constructed first, secondly determine the function, position, size of the objects in the place, and the worldwide relationship of the objects; integrate the non-theoretical and theoretical levels, and refine the design of the objects under the requirements of strengthening or establishing the theme.

3.1. Entry Point Analysis: The Beginning of Landscape Design

The entry point of the Genius Loci theory is the theme, and the means of realization is the establishment of the Fourfold. For landscape design, the entry point means the focus of the design, and the function and appearance of the finally realized objects are directly and indirectly related to it; the second entry point will affect the final expression of the Genius Loci; the final entry point does not mean that it is only a single, the mixed state of the place brought by multiple entry points can often bring different feelings to the crowd.

The first entry point is the expression of the simultaneity of things: image sculpture. The accessibility of the place space means the importance of the stay of all things, expressing the real-time state of such things in the form of landscape sculpture, and calling it the image sculpture. First of all, it has no limit in number, and there must be morphological, material, or color associations between multiple image sculptures; second, image sculptures has no form limit, and is completely an expression based on the real thing of the theme, only the first theme can construct the image sculpture, at the same time it has interactive capabilities, is a landscape facility that can produce morphological changes.

The second entry point is the time and space of things: the preparation of things. The difference between Dasein and other things is that it is active. According to the spatial nature of the three things: latent relationship, imminent relationship and occurred relationship, the state of man in the landscape is divided into three types, namely perception-selectable state, the expected state and the active state have a decisive influence on the position and relationship of the objects in the landscape. The other biological states are only the expected and active states, and the non-biological time and space are mainly reflected in their interactivity.

The third entry point is the theme, it is a necessary condition for the spiritual expression of the place, and its sources include but are not limited to the following: culture, history, memory, image... theme contains the process of refinement and selection of things, mainly reflected in the things Materials, colors, transmission methods, interaction methods, etc. In addition, the expression of the theme often needs to refer to the background of the things.

3.2. Diversity Reflection of the Genius Loci in Landscape Design: The Importance of Dasein

Through the above, the following questions are reflected: Is the Genius Loci the same origin? Is it exactly the same?

Assuming that the place is meaningful to people, then it must be transformed into this existing memory (recall), whether or not the person is in place.

In fact, any place has the conditions for forming memories. The key is whether it can trigger human consciousness. Given that everyone's standards on the level of his feedback are different, it is difficult to formulate a unique standard at present. From the perspective of existential phenomenology, the spirit of the place may be the same as many people, but its perceptual phenomenological background denies this happening, so the answer is Dasein. We can't predict who exactly the existence of all things will be, so whether it is from theory or design, the diversity of the spirit of the place can not be denied.

4. Landscape Design Practice

4.1. Technical Strategy

The space where the selected section of Xihuangcun Railway Station is a continuous closed space needs additional consideration of the existence of "edges".

The problems that the technical strategy needs to solve are: 1. Whether there are insurmountable issues in the climate; 2. The targeted optimization and arrangement of the edge; 3. The treatment of the inner and narrow areas; 4. The problem of the entrance and exit blockage. First analyze the climate of the site to solve the first problem, and secondly solve the latter three problems by expanding the actual area of the narrow area (see Figures 4 to 7).

Through the diversion and demolition of the railway line, the connection and interruption of the platform, as well as the demolition of the original defective platforms, platform houses and other ancillary buildings, the purpose of expanding the scope of activities was achieved. The entrance and exit walls and fences on the west side were all removed and used. To connect the interior and exterior spaces of the premises, the north gate of the Shougang Hospital on the south side is opened, so that the premises can provide doctors and patients with rest and fitness services; the semi-closed edge is implicitly contained in the continuous closed edge, the attached walls are only maintained and updated; the open edges are mainly the east and west sides of the place, and the west side of the place is renovated by building convenience stores and rest areas, surrounding areas of the railway, and building corridors and green. By planting large areas of trees and shrubs on the east side of the site to achieve the effect of incomplete visual isolation in the site. Railway lines and themes should follow a linear development law. The main identity roles are young children (4 to 7 years old), college students (18 to 25 years old), and hospital patients with mobility. The venue needs to provide non-powered recreation for all ages. Facilities to provide small spaces for college students and hospital patients to relax and move, as well as to provide abstract spaces for the theme construction of the place and the design of video sculptures.

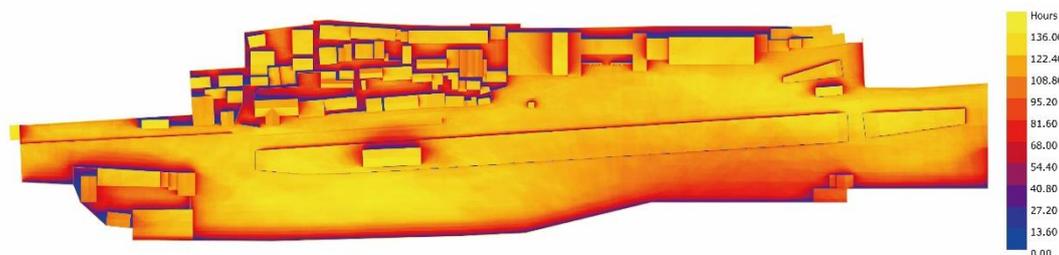


Figure 4. Hours of sunshine in a place (Photo source: self-drawn by the author)

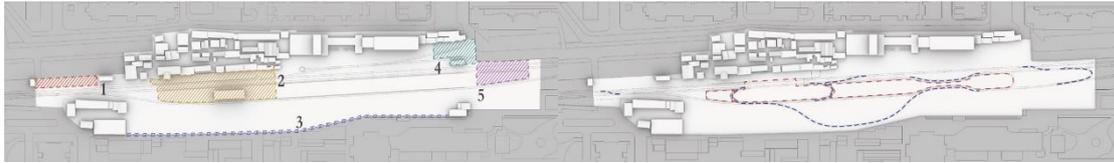


Figure 5. Sketch map of location analysis and update (Photo source: self-drawn by the author)

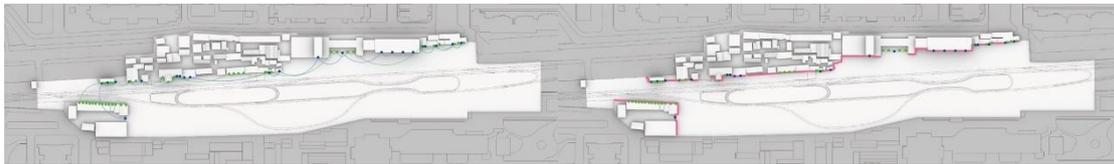


Figure 6. Schematic diagram of the closed edge between the semi-open edge and the doors and windows (Photo source: self-drawn by the author)

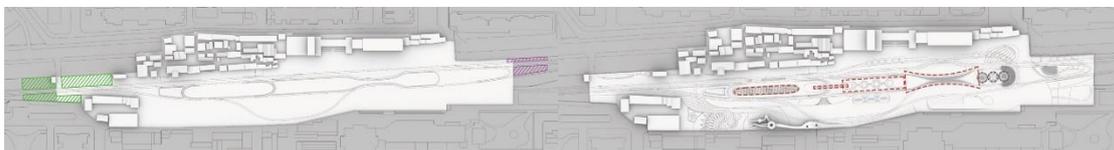


Figure 7. A schematic plan view of a place where the east and west are open and the theme of memories (Image source: self-drawn by the author)

4.2. Theoretical Strategy

According to the locality of the place, the commemorative meaning of the railway and the memories of the railway, they constitute the theme. People walk on the railway track and feel the unique atmosphere brought by this narrow area, which is not same as taking and waiting for the train. By extracting this state and refining it, the possibility of expression based on the theme of remembrance and memory is created. Recall, the first plane route of the theme place design (see Figure 7), which just combines the abstract physical structure of the place, through the structural transformation of the track and the rail car track design, to produce a unique feeling between walking and taking the train. As another core expression of the theme of the place, the image sculpture is placed in the center of the linear platform. The first part is the Xihuangcun station sign on the left side of the oval shape of the linear platform, and the second part is surrounded by a metal line. The third part of the sculpture composed by the tube is the platform landscape wall on the right side of the oval. The image sculpture forms a image-frame with the presence of the place. The second plane route of the site landscape design is mainly composed of non-powered amusement facilities, fitness trails and active open space landscape. The space sandwiched with the fitness trail on the south side is an open space. By gradually raising the edge, it conforms to the shape of the convergence, echoes with the circle landscape, and connects the edge of the south side of the place through similar techniques, extending to the image sculpture : South of Xihuangcun stop sign.

Aiming to establish harmonious and consistent theme with the premises under the premise of satisfying basic usage functions by establishing guiding landscapes and roads, a capsule-shaped activity space composed of paved shapes, wooden frames and curved seats was established. On the east side of the extension line of North Street, a curved wooden frame is also designed to match the curved seat below and the planting area in the southeast corner. In contrast, the blocked space directly opposite the entrance and exit on the west side of the place was changed to an independent plant landscape and convenience store, which attracted crowds to the place through function, shape and color matching. At the north gate of the Shougang Hospital, a semi-underground landscape that conforms to the road shape and a square in the shape of an iron

wheel on the east side are also designed. The paving texture is also similar to the capsule-shaped space. (Above see Figures 8 to 9)

In the ground part of the site, a large amount of frosted masonry and cement floors are used, and a small part is gravel road, marble, plastic and wooden pavement. At the same time, a large number of local trees and shrubs are selected in the site. In the planting area in the southeast corner of the site, you can choose crops, Plant low shrubs. (See Figure 10)

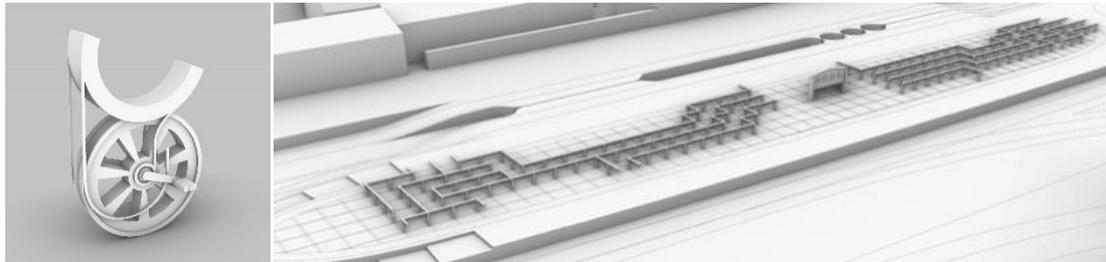


Figure 8. Partial display: rail car, video sculpture-stop sign design (picture source: self-drawn by the author)

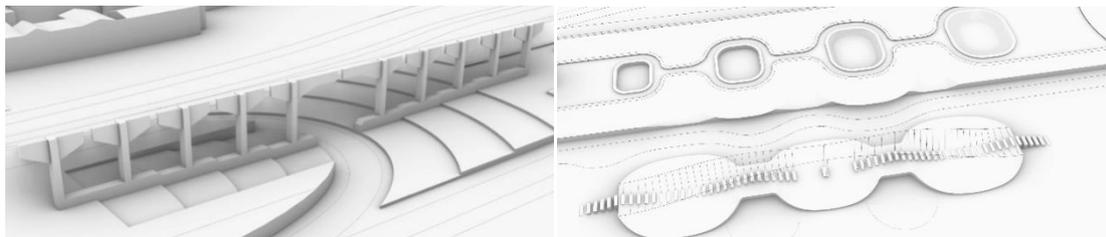


Figure 9. Partial display: Design drawing of platform landscape wall and circle landscape (Photo source: self-drawn by the author)

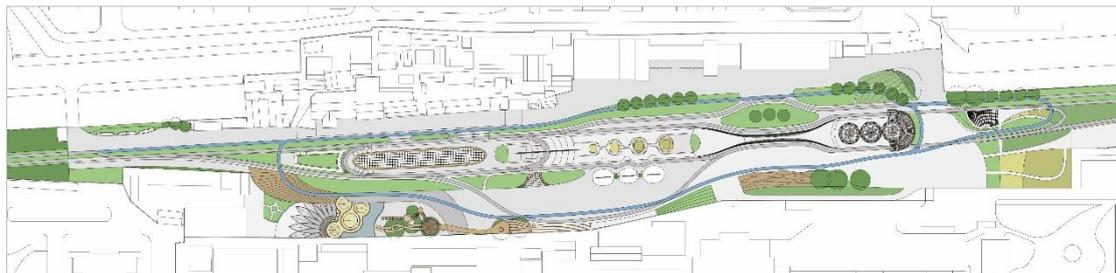


Figure 10. General plan of site landscape redesign (Photo source: Author's self-drawn)

5. Conclusion

This article attempts to construct the landscape design theory by studying the philosophical background of the Genius Loci, but has not studied the influence of sociology and psychology on landscape design, this is the regret of the theoretical research of this paper.

In summary, the combination of "metaphysically starting from theory" and "from design to theory" can make the place spirit theory more complete, and we cannot only see the rigor of theoretical logic or the diversity of design thinking. We also need to pay attention to the limitation of the current Genius Loci theory, it should be continuously developed and strengthened through the role of multiple disciplines with the passage of abstract time. Perhaps one day in the future, when people finally discover what human existence is, the theory of Genius Loci will Qualitative leap.

Acknowledgements

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