



Research on the Application of Signage Free Design of Guide System Based on Sustainable Theory

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Abstract. This paper discusses the signage free design of the guide system based on the sustainable theory, which is combined with the current situation to provide a basis for solving the problems of environmental pollution and resource waste. Through the analysis of successful cases of visual guidance at home and abroad, the design method of No Signboard design in the guidance system is summarized as showing more with less, integrating the space environment, saving resources and recycling materials. At the same time, the paper discusses the form communication of sustainable design in the design without signboard. The design without signboard makes the environment itself as the dominant, and the guidance system only guides when necessary, so that the guidance system can be harmoniously integrated into the environment. The design without signboard will help the public to establish the concept of sustainable development and promote the sustainable use of natural resources and the harmonious construction of ecological environment.

Keywords: Guide system · No Signboard design · sustainable design

1 Introduction

With the rapid development of urbanization and rural construction, new needs and new designs are born almost every moment. The main function of the traditional guide system is to provide identification signs and indicate the path direction. It is an information design composed of orientation guidance system, function guidance system and behavior guidance system. According to its nature, it can be divided into public guidance and commercial guidance. In addition, it can also be classified according to service objects, location transportation and other special ways.

For the guidance system, it is the higher-level requirements of human society for economy, technology, culture and even higher conditions. The function and artistry of the guide system itself are limited, but the results of joint design combined with the surrounding environment are infinite [1]. Many problems have also emerged in the development of the traditional guide system, among which the pattern of the signboard has further evolved into the design of the signboard type guide system, that is, the

manufacturers directly print the guide information on the unified signboard. In many cases, in various large-scale exhibitions, trade, entertainment and other activities, the signboards produced by these assembly lines have problems such as short utilization cycle and unreasonable material selection. The problem is that these exhausted and discarded signboards have caused a series of pollution caused by the butterfly effect, which is also contrary to the common strategic goal of global development in the 21st century—Realize the healthy and sustainable development of all mankind. Therefore, as a designer, we should reflect on the previous blind pursuit of strange shapes and materials in the design of guide system, and ignore the environmental damage caused by white pollution and a large amount of waste after the abandonment of guide system. The value judgment of guide design should be based on the sustainable development of human and environment.

2 Overview of Signage Free Design of Guide System

2.1 Origin and Development of Signage Free Design of Guide System

The design of no signboard can be traced back to the primitive period of mankind. Primitive people made marks directly in the environment: or carved on the wall of the cave or placed into a certain shape with stones on the ground. When the society develops to a certain stage, the environment has been unable to carry a huge and complex amount of information. The concentration of too much information not only disturbs the environment, but also causes visual interference. After the industrial revolution, thanks to the mass production of large machines, various modular signboards have been widely used in buildings and environments for guidance and marking. The “no sign design” in early buildings more or less has the shadow of the style of traffic oriented design or symbol graphic design. In 2001, pentastar design company designed the guide system for lucent technology and art education center, in 2001, hiromura design office designed the guide system for the Japanese Science Museum, in 1999, pass science theme park, and so on. In 2003, Rhineland, Germany For the design of the guide system of the castle in falz, the jury took “No Signboard” as the evaluation standard, [2] proposed whether the guide information can be free from the bondage of the signboard, mainly open-air cultural sites, which are directly connected with the local natural landscape, so as to make it harmonious with the natural environment.

It was learned from the appeal that the environmental factors were fully taken into account in the design process of no sign board, and the effective adaptation and symbiosis of the guidance system to the natural environment were emphasized, with a view to minimizing the damage to the natural environment caused by the guidance system design. Its essence was to deeply consider how the guidance system design could reduce resource consumption and environmental pollution as much as possible on the premise of meeting the needs of human path guidance function. Finally, a coordinated and sustainable development relationship between “people, guidance and environment” will be established.

2.2 Definition and Classification of Signage Free Design of Guide System

“No sign design” is an important achievement of the guide system design in the long-term practice and development. It gets rid of the shackles of the traditional information carrier form, takes serving the entire space environment as the starting point, and integrates the guide system with the architecture or space environment through the ingenious ideas of designers, that is, the transmission of guide information takes the entire space as its carrier. There are three main categories of non signboard classification:

The first category: generally, the guide system without signboards takes the surfaces of walls, floors, roofs, beams, columns, doors, windows and other internal auxiliary components in the building as the media, abandoning the way of setting signboards, and directly integrating guide information such as words, graphics and symbols into the building space.

The second category: unlike the traditional signboard free design, which needs to be attached to the structure of the building, the special signboard free space is more flexible. Designers can choose decorative items in the building, such as balloons, sculptures, flower pots, lamps and lanterns, and give them a new mission to carry guidance information. The special signboard free design can also attract people to stop and appreciate the guidance system, and guide people to think about the sustainable concept of signboard free.

The third category: Modern signboard free design is that modern signboard free design takes scientific and technological achievements as the means. Modern signboard free design is not only a supplement to the existing signboard free design, including projection, lighting, intelligent induction and other ways to convey guidance information. It is also an important development direction without signs in the future, such as the presentation of signs by VR and AR technology, which expands from the traditional plane to multi-dimensional space, and gives the public a different visual experience in a new interactive way [3]. Modern signboards have broken through the traditional boundaries, and the sustainable development of signboards has important modern significance.

3 Analysis on Sustainable Application of Signage Free Design in Guide System

The relationship between man and nature should be complementary and interdependent. This traditional thought is in spiritual connection and consistency with the sustainable design concept advocated internationally now. The signboard free design in the guide system has been widely used in various design projects by designers all over the world since its birth. On the one hand, it not only benefits from the realization of its good function and the transmission of cultural connotation, but also meets the needs of current sustainable development. With the development of modern society, whether for aesthetic needs or functional considerations, people-oriented design is more and more popular with consumers.

On the other hand, the development of modern society has caused unbridled damage to the environment. The proposal of the concept of sustainability reflects people’s reflection on the environment and the transformation of ideas. At the same time, it is

also the embodiment of the return of designers' social responsibility [4]. The signboard free design in the guidance system discusses the communication of sustainable design concept from the following aspects: integrating the space environment, presenting more with less, using recyclable materials and saving resources.

3.1 Integrate Space Environment

The sustainable design method in the guide system design is reflected in the integration of space environment, which can save the limited environmental space and avoid the waste of space. In urban streets, various dazzling guide signs not only occupy too much environmental space, but also all kinds of information are mixed together, making it difficult for passers-by to quickly obtain the information they need. In urban blocks, various dazzling signboard designs pay attention to maintaining the integrity of space, and their design is mainly functional. This restrained design mode is mainly reflected in that the guide information is mainly made of advanced printing technology, inkjet and other viscous films or written words, signs and other information frames made of very few materials, which are directly printed in the wall and other building structures, while retaining the complete function of the diversion system. It greatly reduces the use of metal, plastic and other solid materials required for the production of general signs, which not only saves resources, but also effectively controls the pollution generated by the design project. Architecture is the carrier of guiding information. The design retains the most original function of logo guidance, but creates a unified environmental space [5].

For example, the space guide of Seattle Public Library is designed to be brief and clear. The guide information of reading area and rest area is directly printed on the wall and floor. The huge text is concise and clear, and there are few other independent guide signs. The guidance system as a whole is few and precise. The information of these large color blocks not only does not destroy the space atmosphere, but also plays a role of embellishment, which is unified with the minimalist style in the whole building and conveys the concept of sustainability. In addition, in La Cinémathèque française French and Swiss designer ruedi Baur gave up the previous design presentation on the physical object Method, using the new technology of interactive projection, completed the French The design of visual guide in a film museum. All guides in the Museum All directional information is presented by projection. When the viewer comes to the intersection. The information induced by sound will appear on the wall, and people will leave a certain distance It will disappear automatically after leaving.

3.2 Less is More

The choice of sustainable design method needs to focus on the integration of space environment. Designers should start from environmental research and conceive the design of visual guidance according to the specific space conditions. The value and significance of visual guidance is not to blindly pursue innovation in design, nor to over design regardless of the occasion, but to reflect the harmony and unity between meeting people's actual needs and environmental protection. Only when the guide really conforms to the space environment, the design can be used for a long time and avoid repeated replacement in

the later stage. While meeting the information guidance function of the guidance system, we can reduce the carrier as much as possible through integration and recombination, and extend the service life of the guidance system, so as to reduce the production cost and achieve the purpose of sustainability. The signboard free design takes the building space structure as the carrier, and the whole guide system is simple and clear. The guide information on the wall and ground is often designed with its unique layout, which not only strengthens the recognition effect of the guide system, but also improves the overall image of the whole space environment. The guide elements printed on doors, windows and floors play a role in decoration and safety protection. The multimedia touch screen also improves the interaction between the guide system and tourists. Compress more functional information in the smallest space as much as possible, and the design contradictions between multi-function and micro space collide with each other, which is not only innovative in design form, but also in line with the concept of sustainable development.

For example, parallel projection is a theme of the Japanese Architectural Association Cultural Week, which was held in the Japanese Architectural Association. Based on the 13 issues that need to be discussed in the parallel projection theme of the Japanese Architectural Association Cultural Week, all the 13 issues are displayed on the mobile door panel of the Conference Center for easy viewing. The meeting process is placed on the unmovable door panel to distinguish from the problem, which helps people understand the meeting process when entering the site. In addition, in Benxi Geological Museum in Liaoning Province, there is a touch-screen demonstration to explain the knowledge of vehicles on plant growth. If visitors are interested in the content of the screen, they can press the virtual key to view the information. The exhibition, which takes the traffic corridor as the design source, uses interactive design and takes the ground as the interactive carrier to reflect three kinds of lanes. When visitors choose a lane to move, symbols will pop up to describe the consequences of the two vehicles on the environment. The guide design not only guides the direction, but also conveys the knowledge of building a harmonious home and low-carbon travel, which is in line with the concept of sustainable development.

3.3 Use of Recyclable Materials

The sustainable design method of the guide system without signboard is reflected in the use of natural materials, which mainly guides that the guide system can be recycled and reused after being abandoned, and can degrade into environmentally harmless substances in the natural environment, without forming permanent pollution of the natural environment. Make the visual guide products have good disassembly and recycling functions, reduce the production of excess waste, and achieve the design effect of reduction. Special signboard free designs often slightly transform daily necessities and recyclable materials in life, or directly use them in the guide system.

For example, the guide design scheme of shimara city hall, the whole guide system design selects the environmental protection traditional handicraft shimara kapok as the theme. The cloth can be cleaned, easy to install and disassemble, close to life. In order to cope with the change of recorded information, it is designed into a structure that can remove the cloth. Environmental protection, safety, low energy consumption, can

be recycled, which saves expenses and resources, facilitates transportation and management, reduces environmental pollution, and echoes the purpose of sustainability. In addition, the design of the guide system of the Nagoya International Graphic conference in Japan also adopts the sustainable design method of natural materials. The designer creatively uses the balloon filled with hydrogen as the theme element of the guide, and after the event, the balloon is convenient for recycling.

The characteristics of less and better design without signboards reduce the additional energy consumption caused by the guidance system in the space. The guidance system is attached to the space structure, and the mode of carrier sharing and sharing also enables the resources in the building to be “consumed once and used many times”. At the same time, because it retains the integrity of the architectural space, it produces a sense of harmony between man and nature in the architectural space, and maximizes the role of the architectural space.

4 Conclusions

In general, the birth of signboard free design provides a new environmental protection and sustainable force for the development of guidance system. As the medium of communication between human and environmental space, guidance system design means that in today’s high-speed modernization development, complex information in the space environment will be effectively managed. By reducing the use of physical materials, saving resources, the use of recyclable materials and other methods, the sustainability of signboard free design will be maximized. The purpose of guiding system design is to coordinate the relationship between space, environment and people, and help people move conveniently and reasonably in space. The design concept of no sign requires the guide system to maintain the integrity of the space environment and take the space itself as the dominant as far as possible. The guidance system only guides when necessary, so that the guidance system can be harmoniously integrated into the space, and even the space can become the guidance system to directly deal with the relationship with people and help people move in an orderly and standardized way in the space. Through sorting out the elements of the environment, the existing carrier facilities in the environmental space are cleverly used, and the required visual guidance is reasonably combined with it, so as to expand the use value of the existing public carrier and effectively save the investment of space location and material resources.

Therefore, although the signboard free design in public buildings is not directly related to the natural environment, it can still reflect the concept of sustainable design in form and design concept. As the architect Dai lie advocated, “cater in space and eliminate hidden in materials”. Visual guidance design under the concept of sustainability is a “harmonious symbiosis” relationship with the ecological environment. It is a concept that design originates from the environment, integrates into the environment, does not destroy the environment, and respects the environment. As an important part of public space, visual guidance has a huge demand. Designers have the responsibility to make changes to unnecessary material waste, environmental pollution and other problems in the design of visual guidance. Only with the joint efforts of all parties can we better achieve real sustainable development.

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