The Concept of Green Design in Traditional Chinese Furniture

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Abstract. Some concept which is similar to Green Design could be found from Traditional Chinese Furniture. Chinese ancestor thought that natural materials is the best material of creation and can better reflect this kind of harmonious relationship between man and nature. Usage of natural materials in traditional Chinese furniture not only saves sources of energy and shortens the process of manufacture but also improves production efficiency. Traditional Chinese Furniture advocates the principle of obtain raw materials locally and make full use of materials, and realize economy in use of materials. Traditional Chinese Furniture advocates the principle of manufacture locally and moderate decoration, and realizes economy in manufacture. Traditional Chinese Furniture is living supplies while ritual supplies, and can along with scene changes function beside conventional function. Pure mortise and tenon connection form in Traditional Chinese Furniture realize that recycle used furniture and parts of furniture.

Keywords: Green Design, Traditional Chinese Furniture, Natural Materials, Manufacture, Recycle

1. Introduction

Today, everyone knows the lack of resources, the consumption in sources of energy, destruction of environment after huge industrialization development, which is great barrier in sustained development of human civilization. Therefore, some person with breadth vision advocate new living view which can keep sustained development of human civilization, which include the concept of Green Design. Green Design also know as Ecological Design, which advocate not only reduce the consumption in resources and sources of energy, reduce the emission of harmful substances, but also recycle used product and parts of product, whose starting point is base on reduce harmful effect of design to environment.

Harmony between man and nature, which is attitude to life of Chinese ancestor, which is ideal state reflect Chinese living pursuit from ancient times to the present. This kind of thought influence all kinds of traditional act of creation, such as Traditional Chinese Architect, Traditional Chinese Furniture, Traditional Gardens, Traditional Arts and crafts, etc. This kind of aesthetic thought is similar to today’s Green Design in the basic thought, all pay attention to respect environment and nature. Therefore, some concept which is similar to Green Design could be found from Traditional Chinese Furniture, such as usage of natural materials, economy in use of materials and manufacture, multiple use of product, recycle used product and parts of product, and so on.

1.1. Usage of natural materials.

Traditional Chinese Furniture uses natural materials not only embodies Chinese aesthetic taste but also reflects requirements of Green Design.

Chinese ancestor thought that natural materials is the best material of creation and can better reflect this kind of harmonious relationship between man and nature. Therefore, they pay attention to usage of natural material, especially the wood and bamboo as the main material for furniture making. In Traditional Chinese Furniture, not only use a large amount of wood, bamboo, stone, silk, etc but also pay attention to maintaining the surface characteristics of material itself. They thought that the surface characteristics of material itself can
better express a kind of unique natural beauty, at the same time their emotion is reflected in the unique surface texture of natural materials by their cultural imagination.

Usage of natural materials in traditional Chinese furniture not only saves sources of energy and shortens the process of manufacture but also improves production efficiency. On the one hand, natural materials are natural form so the forming process of material can be simplified. On the other hand, simplify the procedure of surface treatment, and pay attention to maintain the surface characteristics of material itself.

The vast majority of natural materials are safety and harmless to person. Even some of natural materials are more comfortable than others to person, and some can improve the living environment. For example, bamboo seat is more ventilation than other, wooden furniture can regulate the humidity of indoor air, and so on.

1.2. Economy in use of materials.

Traditional Chinese Furniture advocates the principle of obtain raw materials locally and make full use of materials, and realize economy in use of materials.

The vast majority of Traditional Chinese Furniture advocates the principle of obtain raw materials locally but few furniture of the privileged. Reduce transportation cost. For example, beech in Zhejiang and Jiangsu province, yellow rosewood in Hainan province, the bamboo in central south areas, and so on. The use of local materials can reduce the consumption in obtain material, and realize economy in use of materials.

Make full use of materials is another important principle. Traditional Chinese Furniture main uses natural materials, and these materials have some natural defects during forming process, such as tree scar, crack, stain, etc. But Chinese ancestor make full use of each parts of materials. For example, the defective less wood is used for the plate heart that has strong visual influence, and the defective wood is used for others that have weak visual influence. The vast majority of material scrap is often neglected in materials but Traditional Chinese Furniture. Some of material scrap is used in Traditional Chinese Furniture by particular form. For example, the save side form of Ice-crack texture (refer with: Fig.1), the large cabinet door consist of some small broad (refer with: Fig.2), and so on. Not only make full use of materials, but also pose a number of unique and aesthetic forms.

Fig.1 the save side form of Ice-crack texture
1.3. **Economy in manufacture.**

Traditional Chinese Furniture advocates the principle of manufacture locally and moderate decoration, and realizes economy in manufacture.

The vast majority of Traditional Chinese Furniture advocates the principle of manufacture locally. Their manufacturer usually sit where are close to their user, and where probably are in residential district of user. Because usage of natural materials and artificial manufacture, so their production will not affect the living environment of resident. Local manufacture can reduce the consumption in transportation between product and user. Although this kind of manufacture is economy, manufacturer scale is restricted by their business model.

The moderate decoration is another principle of economy in manufacture of Traditional Chinese Furniture. This kind of form that useless and pure decoration is seldom found in Traditional Chinese Furniture. Only a small amount of decoration is set up visual center of furniture (refer with: Fig.3). The vast majority of parts in Traditional Chinese Furniture are no frills but simple linear. And this kind of sharp or delicate liner is hardly seen in Traditional Chinese Furniture but large number of form that is harmony relation between square and circle (refer with: Fig.4).
1.4. Multiple use of product.

Traditional Chinese Furniture is often multiple use of product. The most of furniture is living supplies while is ritual supplies. And large number of furniture can along with scene changes function beside conventional function.

The vast majority of Traditional Chinese Furniture is living supplies while is ritual supplies. For example, Official Hat Chair not only have conventional function of chair but also symbol the outlook on life of pursuit official career in Confucian thought, Round-backed Armchair symbol sky round earth beside conventional function of chair (refer with: Fig.5).

![Fig. 5 Official Hat Chair and Round-backed Armchair](image)

Large number of Traditional Chinese Furniture can along with scene changes function beside conventional function. For example, Chinese bench often as restaurant furniture and is located in front of square table, but when auxiliary braided straw sandals it is a kind of tool of production (refer with: Fig.6).

![Fig.6 Chinese bench at different scene](image)

1.5. Recycle used product and parts of product.

Pure mortise and tenon connection form in Traditional Chinese Furniture realize that recycle used furniture and parts of furniture.

Traditional Chinese Furniture through pure mortise and tenon to connect parts. Therefore, Parts of furniture can disassembly and assembly. Some aging and broken parts could be replaced to new parts by mortise and tenon connection form, and recycle used furniture and other parts of furniture.

2. Summary

To sum up, Traditional Chinese Furniture exactly have some concept similar to today’s Green Design. The concept of Green Design in Traditional Chinese Furniture should be inherited and be used to design New Chinese Furniture. Future research will be focused on how to inherit the advanced concept of Traditional Chinese Furniture and how to deal with the relationship between Chinese Furniture with people’s modern life. This paper is supported by the Research Foundation of Education Bureau of Hunan Province, China (Grant No 10C1336).

3. References