

Industrial Design Ethics in Low-Carbon Age

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Abstract. On the background of low-carbon society, the thesis analyzes restructuring of and design ethics. The thesis proposes that to solve ethical relations between humans, human and material, human and nature is the premise of the development of industrial design, and also discusses the specific methods of Ethics in the consumer market, school education, design practice. It has a positive guidance to innovation and development of contemporary industrial design.

Keywords: Industrial Design ; Design Ethics ; low carbon economy

1. Introduction

Three times in human history, the technological revolution, industry, technology has brought to mankind a better life. However, the ensuing climate change, ecosystem degradation and other phenomena that reflect our human development. How to achieve low-carbon development goals of society, has become the world's most concern. Industrial design is an important part of the industrial economy, how to make the industrial design for low-carbon age, is an important issue we face.

2. The Transformation of Low-carbon Era of Industrial Design

With industrial economic development, industrial design in the global industry total output value of the status of higher and higher and more involved in the industry, industry chain length, high added value, promote economic development of the more prominent advantages, has been the world attention.

“Design has the power to change the world, but it is also possible to make the world into a garbage dump.”[1] driven by economic interests, and such strong anthropocentrism of social thought, the pursuit of extravagant, wasteful, unrealistic, loss of Ethics and so on in the design after another. In 1972, the Club of Rome published Limits of growth theory, as a forecasting tool, the study suggests that continuing the current rate of resource consumption is not sustainable, it requires a new sustainable development. Subsequently, the Brundtland Commission (Bruntland Commission) of “Our Common Future” and the 1992 Rio Earth Summit “Agenda 21: Earth Summit strategy to save our planet”, have expressed concern for the environment. Since Rio, more and more people believe: a sound environmental policy is critical to the future survival of the human spirit cornerstone. And others such as Paul Hawken's “Natural Capitalism: Creating the Next Industrial Revolution” (1999), Brown's “eco-economy: Building the Earth” (2001) and so on, Brown said: “The Economist the environment as the economy a subset. ecologist the economy as a subset of the environment.”[2] for the design community, although many designers have been concerned about sustainable development, but the design community as a whole and not as the core of sustainable development spirit. Therefore, in the background and a global low carbon economy consensus, there is a need to seriously reflect on the design concept of sustainable development issues that appear to guide and establish the scientific

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design, to avoid natural and social resources are excessive and continuous damage. At this level, the transformation of industrial design calls for a low carbon economy and ethical awareness.

3. Industrial Design Low-carbon Era in the Ethical Sense

Design is a closely related with human activities, has affected every aspect of modern civilization, you can change and guide people's consumption ideas, concepts and ethics of life and so on. In the increasingly reflect the current lack of control and resistance to the temptation of material desires and interference, we must strengthen the design ethics, construction people, and objects, people and nature of ethical awareness. Design ethics is built on the basis of ethics, the ethical values associated with a variety of social relations, through the people's ideology, the use of certain means acting on the design activities in a science. Ethics is a complex relationship in human society in relation to the theme of moral and ethical study of a discipline. Ethics is a moral relationship between the design-based, physical design activities across the social relations and ideology of social relations, expand the concept of material contradictions and ethical research, and its task is to use some of the ethical concepts and laws of development, based on specific criteria and the environment, the right to set standards of conduct and social norms in kind, through the design of artificial material, obtained from a moral point on the coexistence of human society, equality, progress, order and security, given to accept the creation of human society entities, and to promote moral education of the whole community.

3.1 Ethics between man and man

UK release from 2003 "Our energy future: creating a low carbon economy," Energy White Paper to the World Summit in Copenhagen in 2009, "carbon problem" have become the core concern of the world agenda. Mainly because people are aware of resources and energy shortage has become a bottleneck restricting economic development, low-carbon era following the Industrial Age, Information Age era after another trend. Extreme climate change in the suffering, environmental degradation problems, human beings in order to "poetic habitat", it is necessary to build ethical awareness. Low-carbon living does not mean to sacrifice the convenience of the existing life, but not to far away from the people degenerated into a primitive state of technology, but a life philosophy, lifestyle changes and self-restraint. We condemn the destruction of ecological balance, environmental pollution, use various means to ease the different regions, different generations of conflict of interest between the deep-seated problems still is the perfect time to build low-carbon eco-system, just rely on the system, the law is far far enough, the ultimate concern is still the coordination of the relations between people. From one perspective, the ecological damage the human spirit the ecological damage than the much more serious, the current ecological crisis is the crisis caused by the human spirit. Thus, even in the "survival of the human intelligence"[3] the future, the impact of design on people would still be "human performance of 'free' intervention" [4], only the interaction between the treatment guidelines for industrial design, for the people and between things, establish a healthy consumption concept and the right aesthetic sense, will reach the common social and ecological harmony.

3.2 Ethics between man and objects

In strong anthropocentrism, man is one of the most advanced being, and therefore all human needs are reasonable, any of you can in order to meet the needs of their own destruction or extinction of any natural existence, to nature as a for people to obtain any raw materials warehouse. Ideological influence in the design and commodities such as these, driven by fame and fortune, the designers will not only be required to design a new style, new style of work, such work must also allow the design of community excitement for the future, and to re-define the future design trends, but also designed an alarming rate. The use of packaging materials in the product so completely as the center of man's desire, desire to become human development, "the strongest force." To be out of the current ecological crisis, we must alleviate the "most dynamic" the destruction of the planet's ecosystems and the impact and find the ultimate concern of mankind. Can not be entirely in accordance with the will to meet the emotional needs of their people, to see the inner purpose of nature, correctly deal with the ethical sense of natural existence of the "instrumental value." Attention in the innovative design of the unity of design and art, form and function perfectly, using local, natural materials, thereby saving energy and protecting the environment, reduce consumption and pollution.

3.3 Ethics between man and nature

“New technologies are fundamentally changing our relationship with the material world. Engineers, code writers, product designers, scientists do not fully anticipate all the potential uses of new technology, which means 'dark side' of a These technologies may become reality. ”[5] the world is an interdependent system, eco-centrism that the idea of anthropocentrism root causes of environmental problems, should break through the traditional morality only emphasized the limits of human relations will extend the application of ethics to the relationship between man and nature. The request for this claim carbon of great significance in industrial design. On the one hand, this ethical requirement to protect the designers and industry have a natural sense, on the other hand requires the consumer to know how to reverence for nature, conservation of natural, conscious pursuit of the ethical relationship between people and nature. Such as China Real Estate Chamber of Industry and Commerce launched the “low-carbon green residential assessment system”and building energy efficiency indicators, the full implementation of all renovation and real estate practices; number of paper mills using waste paper packaging for milk drinks the main component of pulp and plastic, aluminum to kraft pulp made of recycled plastic particles made of recycled plastic, aluminum foil made of aluminum, so recycling use, etc., is a manifestation of this ethical relationship.

4. Ethics Training the Way Industrial Design

Industrial design can not be caught in an infinite expansion of the business and consumer activities, the bottom line is to design the behavior of design ethics, consumer behavior should also have ethical bottom line. However, advocates of human freedom in the era of secularization, it is easy to be lured to the materialistic way of life. In this case, the need in the consumer market, school education, ethical awareness of design for design guidance and education.

4.1 Consumer market

According to Rostow take-off model, the history of economic development can be divided into six stages: traditional society stage, ready to take-off stage, off stage, mature stage, the mass consumption stage and beyond the public stage. After 20 years of last century, mass consumerism, dominant in American society, luxury goods consumption rose, “money talks” to dominate all the activities of people, earn money to enjoy the basic tenets of a people. “2010 China Social Situation Analysis and Prediction,”pointed out that China has in from off stage to the affluent consumer. Admittedly, consumer commodity economy is an important part in the operation, the pursuit of a better material life is a human instinct. Allen • Dunin, said: “From a historical point of view, excessive consumerism is unusual value system. Consumption is a way of life for hundreds of years of human culture developed by the conservative orientation of the radical departure. Whether it is because we choose to resist it, or because it relies on the destruction of our ecosystem, consumerism will eventually be a short-lived value system. ”[6] of popular culture is a Qumei to consumer goods, cultural, political function, cognitive function , and even aesthetic features educational function was inhibited, and strengthen and highlight the features of its sensory stimulation, games and entertainment features. Design is the pursuit of luxury and other undesirable manifestation of mass consumerism. Therefore, it should be through the media criticism, criticism of the exhibition, networking and other forms of criticism, the “good”positive publicity of industrial design, communication of functional, aesthetic, tactile, ergonomics and environmental protection in areas such as unified design concept, the right guide consumers consumer behavior and consumer preferences, and consumer groups to achieve the emotional resonance, and thus consciously seek to promote industrial design, design ethics

4.2 School Education

Since the times of rapid change, the value of the design content in a constantly changing process, “authenticity in design education in a variety of design concepts, regardless of popularity. Designed to determine the true value of many gaps, the position is with the design exacerbated by the rapid expansion be exposed. ”[7] people, and objects showing various contradictions, human development has also brought many negative effects, but also to bring many young people in the cognitive errors. A century of cultural anxiety is a result of the culture of defeatism, only with the cultural awareness and cultural self-confidence to admitted to.

Designed for young students ethics education, to foster cultural awareness, critical to the design of a scientific perspective, human values and ethical values from the high level of awareness of industrial design, serious consideration of man and nature, human and material, human and social relations the problem is a fundamental and strategic initiatives. Therefore, both groups for the young people or students for the professional learning design, design criticism should be active in education. In the sense of emotional, intellectual and so full of humanity and green design to strengthen the ideological education of young people the right experience to guide the process of modern industrialization, material and technical means to bring constraints to the design and impact, understand the blind visual stimulation to the social behavior and design and the environment caused by the disaster and waste of resources, visual, and thus the interests of human society as a whole concept of starting with the scientific design, to artistic perception and creativity to enhance the design while establishing a strong ethical awareness.

4.3 Design Practice

An ethical sense of industrial design, is to establish saving society and developing the concept of circular economy in industrial use, also the industrial areas of circular economy. U.S. to send the master of modern architecture FO Gehry once asked: "98.5% of the buildings are mediocre, and only called the building, why are there so many mediocre landscape, and we still do not realize the whole world that?"[8] In his view, design attitude of the designer is very important. Is the responsibility of the creative design, demanding designers must be highly responsible community spirit, a strong sense of mission, responsibility and high professional ethics, so as to fairly and objectively to provide useful services to the community, the correct orientation. Designers through the design and people, goods, natural establish an appropriate relationship, design work will not be the main designer of personalized presentation, but its design concept to promote socialization and consensual. However, the design of profit-driven, commercial design practice, designers are often inadequate, and, therefore, urged critics to design and guide the designer's ethical awareness is very important. Through designers and design practices of rational criticism, so that each individual design practice, always set the design of enthusiasm ethical awareness, changing the production, circulation, consumption, fashion, and so market phenomena, as well as economic, cultural, demographic have a clear insight into issues such as understanding the right things, of life's unique, creative design ideas built on ethical consciousness.

5. Acknowledgment

With the low-carbon era, and further reflected in the design of industrial design and methods of ethical values, not just a theoretical issue and awareness of the problem, but also important practical issues and practical problems. To take various means to guide the ethical awareness, build low-carbon era of industrial design evaluation system and operational mechanism, improve the industrial design and economic development, social progress, coordinate, and continuously promote the design ethics to become the subject of industrial design.

6. References

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