Brief Analysis on "Non-material" in the Future

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Abstract—In the information society, culture revolution is a procedure which transforms from a society taking creation and production of material product as its center to a society taking service or non-material product as its center. As an advanced future design, non-material design has positive significance in guiding and forming reasonable life and production method. We shall constantly revise ideas from dialectical view, so as to form a rather complete design idea meeting information era. Forwarding-looking theory that non-material design has shall be combined with China's actual situation to seek more effective and more reasonable modern design development direction with Chinese characteristics in national culture with Chinese characteristics.

Keywords—future; Non-material design

I. INTRODUCTION

In the information society, culture revolution is a procedure which transforms from a society taking creation and production of material product as its center to a society taking service or non-material product as its center. "New design" in the future will be a non-material design to serve for material society, and it also a design to make lifestyle humanized. As an advanced future design, non-material design not only has positive significance in guiding and forming reasonable life and production method, but also provide a new referable idea for social "science and sustainable development" and formation of design culture with Chinese characteristics.

Every technology revolution in human history greatly promoted reform of production method, and make the society and people's life generating huge changes at the same time. The formation and development of information society makes traditional design itself into the object reformed, while computers lead the design stepping into design era of "digital information" from methods, ways and process as an convenient and ideal design tool. The outstanding features of such kind of "non-material design" are information and humanity. It also shows design value and social existence meaning from demand satisfaction of pragmatism to stimulation requirements of commercialism. And then it's a change process to ecological requirements of non-materialism.

II. NON-MATERIALIZATION TENDENCY OF FUTURE DESIGN

In the 1990s, with the coming of the "information age" and support of the environment of Internet as well as

multimedia and virtual reality technology, design is reformed starting from the scope, definition, nature, function and all other concrete aspect of education to "non-material" society and cultural significance. American scholar Marco Diani thought: in the post-modern society, dominant structure people work for form a major characteristic which refers to omnipresent and adaptable performance of the technology. It developed from working by human resource to by machine and further developed to working by computer during which rapid technology changes lead to individuals and groups get changes in order to adapt to the special changed working environment. When such technology changes occur, social reform and cultural reform also take place. The reform reflects a society based on manufacturing and producing material product is changed to a society based on service or non-material product. In some new conditions, the design has become a more complex activity combining multidisciplinary." [1] That is to say future design will not be limited to hardware design of the object. It does not design material product as traditional method, such as chair, screen and keyboard, but it stresses on "non-materialization design", such as system, organization structure, intelligent, interface, atmosphere, interaction, information and entertainment service as well as digital art. It covers the green design, bionic design, symbol design, barrier-free design and designs in many other aspects, and focuses on stimulating creative potential of consumer so as to build a colorful life and working environment.

Of course "non-material" is not simply the antisense of "material" . In information era, material design is coexisted with non-material design, industrial product is coexisted with software product, and machine production method is coexisted with digital production method. For example, automobile design is not only the design of automobile itself, but it requires considering traffic and environment of nonmaterial more; washing machine design is not only the design of the washing machine itself, it gives more consideration on laundry service ways and potential use habit. It can be seen that material design existed non-material consideration already (such as conception and ideal of products, as well as function and style), and non-material design could be achieved with help of material form (such as "artistry" and "spirit" of product attached above the materialization); both are links and base mutually and are dispensable. However, non-material design is the transcendence of material design, and development of contemporary science and technology provides required conditions and developed path for such transcendence. As

previous existence form of material design, non-material design is transformed into existence form with relatively independent meaning and undoubtedly becomes the product further combined contemporary science with technology and art. It also predicts a development tendency for future design.

III. INFORMATION FEATURE OF NON-MATERIAL DESIGN

It's not hard to see in statement earlier, non-material design in the future crosses the boundaries of subjects, and closely connect the designers, artists, natural scientists, psychologists and mass communication experts to make the traditional art design developing into visual art which gives priority to virtual design and manufacturing, information in network community design and other various fields.

As the main characteristics of non-material design, information embodies in many different non-material levels. At first, due to infiltration of digital technology brought by the high-tech, designer will need to rely on new space provided by computer, matching virtualization and digital with new technology for design medium or means to carry on the design. Drawing tools such as the Macintosh almost completely replace of the drawing table; all kinds of drawing and design software replace pencils; all imaged required to be drawn could be done in the computer, regardless of the whole or partial, or vertical face and horizontal face, even horizontal observation 27 section. This makes the designer more imaginative, and the designer could play his creatively in a larger space. Secondly, design process of information interface is the process of information delivery and communication between people and machine. On the one hand, the designed product has no longer existence form in material level, but it becomes the virtual and digital product. External form of product is not only to express function, and product function also becomes a "super function". For instance, file copy and paste in the computer, we only see digital expression of information copy and paper and folder in material level does not exist any longer. It shows paper is flying to a certain folder on the screen, but in fact it's just convenient for users to understand information procession procedure and it's not a material form intentionally added under non-material operation. On the other hand, with the help of virtual design, the designer provides virtual threedimensional environment for product's creative design, form change and process optimization to make virtual processing, assembly and evaluation of the product. In doing so, it not only avoids problems and defects in the material design, but also reduces development and manufacturing cost of the product, so that it effectively shortens development period of the product. Again, even the styles and expression of graphic symbols in the design are determined by information itself and rational norms, it requires cooperation of art and feeling. Such art and feeling must be combined with science and rationality. It required any forms must have clear, scientific and empirical reason before establishment. Professor Li Yanzu thinks information design is similar to "map" drawing in Design: Between Science and Art. He thought the map makers will scrupulously transform figurative material science into symbols. When such symbols are integrated into meaningful and identifiable graphics, it participated in not only scientific production process but also art manufacturing process. All of above information are provided to users. The users are entitled to judge, use, feel, process and manage the information. It belongs to information performance in nonmaterial level visible but untouchable.

IV. HUMANISTIC VALUE OF NON-MATERIAL DESIGN

Individual loneliness and personalized survival mode are strengthened in information era. People are more eager to highlight spiritual pursuit of design product and design personality as well as emotion expression to make it including more humanistic value while the design provides better functions. Concept of "form is subject to emotion" which is put formed by famous "Frog Design Company" in Germany thought that: what consumer purchase is not only the product itself, but purchase the value the product included and self-consciousness. Therefore, as creator of lifestyle, non-material design bears the burden of human mental and spiritual solace and play the role of continuing human civilization. However as the connection of science and technology as well as humanity culture, non-material design pays attention to the communication with consumers, attaches great importance to performance of the humanity culture, and highlights the people-oriented service idea. Its humanistic value is expressed in the following three aspects:

At first, in order to reflect individual value and stress on dignity, design must be really close to the user's desire. Nonmaterial design will have user's communication throughout the whole process of life cycle of the design work. A good design must be able to inspire emotion, "it is produced from in-depth understanding and strive to achieve a strong idea based on creative efforts. But such efforts shall never be restricted: that is to assay it belongs to its specific topic rather than personal expression based on the creator." [2] The social responsibility of the design is to make the designers standing on the position of the user's, speaking for the user, and maximum convenience for the user. During operation of non-material design, the designers acquire inspiration by listening to and implementing user's demand feature, and then create practical and meaningful design works. Therefore, personalized products required by people become possible and it highlights the people-oriented design concept. Like a vacuum cleaner company in Japan, it designed rental service system for a vacuum cleaner; GR Subway Company designed systematic traffic service mode with rapid subway + rental + bicycle. This system is very popular with people because it provides personalized, flexible and fast transportation for passengers.

Secondly, "non-material design" is a design based on serving for people and it takes such operation mode that product is the same and service is the center during the whole process. In this non-material design with service-oriented. Service volume becomes a link between producers and users. Producers seek maximum benefit by providing "service" and satisfy users with service demand at largest. Focus will be shifted from upgrading gradually to consumption reduction, best use of everything and resource sharing. Production cost shall be combined with ecology cost effectively. Producers undertake the whole process of

production, maintenance, upgrading and product recycling, so they will actively do some works beneficial to the ecological system (e.g., recycling useful components). Users choose to use products and make payment according service volume. It will take initiative to optimize use process. Eventually it will make producers and users take responsibility for environmental protection and resource conservation together.

Thirdly, non-material design provides new referenceable ideas for scientific development of our society and building design culture with national characteristics. Consumption way and life attitude advocated by "non-material design" are similar to self-cultivation, getting rid of materialistic desire and diligent conservation, stressing on pragmatic and other cultural traditions which the Chinese people have had since ancient times. The green design advocated by non-material design and opinion of human creation suitability is the reflection that China's philosophical thought of "man being an integral part of nature" shows in modern design. Our country is faced with contradiction of large populations and small resources, so well development could only be obtained by achieving "scientific development" and "sustainable development". Non-material design is right there to provide a new referenceable ides for us.

V. CONCLUSION

Above all, future non-material design is a brand new design which is established based on highly advanced material and surpasses material. It's a product combined science and technology as well as art which give priority to information in visual design and manufacturing network community design and other fields. The humanistic value relies on it creates corresponding existence way and life way adapting to future society through design and generation of future products. Of course, no matter how information technology develops, technology itself is not a purpose, because it is method for human to create more reasonable life way. The ultimate purpose is to provide better "service" for mankind. The designed future is the future for mankind in a certain sense. From the perspective of development, when brand new science and technology revolution comes, the trend of design will also shift towards the direction of "natural balance as the center", thus it will form a new trend of design of "life environment as the center". As an advanced future design, non-material design has positive significance for guiding to form reasonable life and production way. We shall constantly revise our concepts from the perspective of dialectical thinking to form a rather complete design concept which meets the information age.

We shall constantly revise ideas from dialectical view, so as to form a rather complete design idea meeting information era. Forwarding-looking theory that non-material design has shall be combined with China's actual situation to seek more effective and more reasonable modern design development direction with Chinese characteristics in national culture with Chinese characteristics.

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