

The Linkage Relationship Between Contemporary Reflection and Historical Concept and Design Practice

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ABSTRACT

Based on the context of globalization, the cross-border integration of theories, concepts, methods and technologies in different fields has become an inevitable trend for the development of multiple innovations in design science. This article explores the linkage relationship between contemporary reflection and historical concept and design practice from three aspects of design thinking, practical function and symbolic function, and designer's cultivation, in order to seek new ideas in the concept of design practice and explore the accumulation site of "new circumstances" produced by the cross-paradigm of design science.

Keywords: *Contemporary reflection, Historical concept, Design practice, Design concept.*

1. INTRODUCTION

In the language environment of globalization, design is no longer a pure business activity. It breaks the boundaries and gradually expands to specialized subdivisions and then serves for the field of technical study. The development of design thinking, discussion and improvement will make design to connect with comprehensive and useful knowledge from the fields of art, science and other fields. This way of association will help designers to solve the new problems and new goals they face today.

2. DESIGN THINKING

In "Wicked Problems in Design Thinking" [1], Richard Buchanan believes that design is a new form of rhetoric in the technological age. Design is the practical art of technical culture, because it is about the conception and planning of artificial objects or man-made world, such as symbols and images, tangible objects, activities and services, systems or environments, etc. Practical art originated from the Renaissance and gradually developed into a general education in the 19th century, including fine arts, history, mathematics, natural sciences, and social sciences and so on. Later, the circulation system of knowledge in

general subjects was divided, and several themes continued to develop in different directions. At the end of the 19th century, the theme of roller-type development gradually precipitated from simpleness to high class, forming a variety of professional knowledge categories. "Since the 20th century, design thinking has evolved from a pure business activity to a trend of specialized sub-industry, and then it has become a field of technical research, until today, it has developed into one of the new types of practical art in technical culture." With the increasing degree of design specialization, research in various disciplines has been shrinking, and knowledge fragmentation has also appeared. Art and technology need to be integrated by supplementing new disciplines, introducing the perspective of design thinking into new practical art under technical culture, and linking related knowledge to help solve new problems and new goals faced by today.

John Dewey believes that technology is a kind of experimental thinking [2]. He pointed out in "The Pursuit of Certainty" that the integration of professional skills and disciplines has formed a new center, and knowledge is no longer completely established by the solidified concept of natural order, but is oriented to a new artistic order. In the context of contemporary culture, understanding

design and technology plays a very critical role, and the meaning of design and design thinking will become more and more complicated as the relationship between contemporary cultures becomes closer and closer. However, the intelligent practice of transforming the concept of artistic innovation in design requires proper reflection to clarify the communication with the participants as well as to understand the foundation and value of design thinking.

At present, design science integrates the exploration of traditional art and science into people's lives, and integrates new theories and knowledge in different fields. These four aspects of symbol and visual communication design, object design, organized service and planning design, and

daily life and design are interrelated and have extensively affected the lives of contemporary people. These fields are gradually paying attention to the maintenance of the cultural ecosystem in the design to shape the environment that meets the needs of people. In the field of design, it often appears that the initial point of view is concentrated in a certain direction. In the process of transformation of creativity, the original problem is placed in a new framework to stimulate new ideas. The innovation of design science also needs to try to explore different results in the continuous placement of new frameworks. Of course, judging whether this kind of experimental development produces effective meaning requires both personal judgment and society's decision.

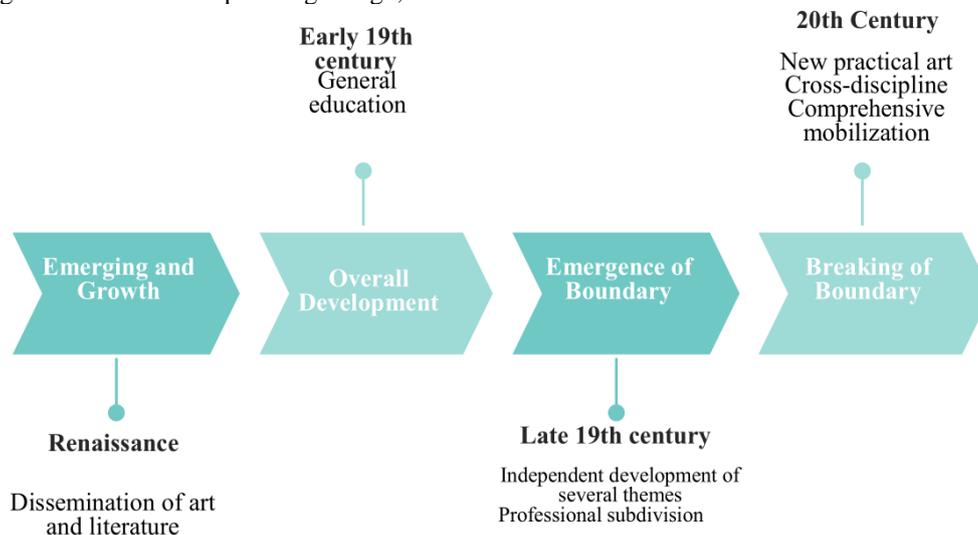


Figure 1 The emergence and development of practical art.

An example is the basic language of communication theory and semiotics that appeared in the 20th century in graphic design. ("Figure 1") The designer tries to communicate with the audience by coordinating texts and images, so that the audience is not only the recipient of the preset information, but also the active participant. This is the "double reset" of the design problem. [2] The designer's ability lies in exploring and discovering new relationship structures and networks among symbols, things, thoughts and behaviors. The placed boundary provides a new context and direction for thinking, as well as an effective method for accidental discovery of creation. That is, design is no longer a pure professional technique, but a new type of practical art.

Horst Rittel raised the wicked problem¹ in the 1960s in order to find a way to replace the linear and step-by-step design process. This model proposes a charming methodology, independent of the designer's personal vision. Linear model is based on a clear definition of known conditions, and then some solutions will be proposed. The wicked problem, however, believes that there must be uncertainty in the design, and this uncertainty means that there is no fixed restriction on the design or design problems. In a certain range, design thinking can be applied to people's life field, so the theme of design has potential universality.

1. The term "wicked problem" was borrowed from the philosopher Karl Popper and extended in many ways in the hands of Rittel. Under the influence of the neopositivism at the beginning, it will seek to establish a new method related to rhetoric when it specifically and practically infers a problem.

As a tool of design thinking, the placement method can take into account the relevant opinions of participants and enable designers to intuitively or purposefully create specific design situations to meet the effective innovation conditions for further development. The history of design is not only the history of objects, but also the history of evolving concepts. The designer's conception, planning and production of objects are the expression of their design concepts [3].

Design is a kind of communication, construction, strategic planning or system integration. Design thinking mainly solves the mutual relation and function between symbols, things, behaviors and thoughts. Industrial design, engineering design, and marketing rely most on the field of design thinking. Industrial design focuses on the possibility of product concepts and planning methods, engineering design emphasizes factors such as materials, structures, mechanisms and systems[4], and marketing considers the changing laws of the preferences of potential customers.

3. PRACTICAL FUNCTION AND SYMBOLIC FUNCTION

Yves Doveger tried to establish a new humanistic research method. He believed that all designers must create physical "objects", and designers who are mainly responsible for creativity need to cooperate with engineers. In the article "Design Prototype: Design Before Design", he and John Kuras discussed the functional attributes of two design objects with practical function and symbolic value, and according to the situation, the symbolic value and use value will be converted. This leads to another position, that is, the production of functions encompasses and characterizes the production of symbols. While designers and engineers form a cooperative relationship, the technology they master is "dissolved" into a single technology.

The book *Graphics Technology* gives a large number of examples to discuss practical functions and symbolic functions. The example of corsair [5] discusses that the design can be effective, light, beautiful and solid at the same time. Almost all the warships of the 17th-18th centuries had both symbolic and practical functions. Designers and carpenters were responsible for the practical functions, and professional artists, sculptors and decorators fulfilled the symbolic functions. In the literature of the 19th century, architects and engineers were both called designers, but their main

work was about art. At this time, their technique was limited to compasses and straightedges, and they began to consider the "rules of art" [6]. The grasp of proportion arose from the consideration of the soundness and balance of building materials. Proportion is particularly important in achieving a sense of architectural harmony. In the article, the Strasbourg Cathedral is taken as an example to discuss the proportion of the design, as well as some "Utopian visions", explaining that in the conceptual creative stage, practical functions and symbolic functions can be both considered. In Doveger's view, this integration of engineers and designers, practical functions and symbolic functions is a threat to the new generation of designers. In the conceptual stage, engineers give product symbolic functions in artistic form, and industrial design including conceptualization and technical skills is produced from this. In other words, engineers have mastered both the technical part as well as part of the designer's ability at the same time. ("Figure 2")

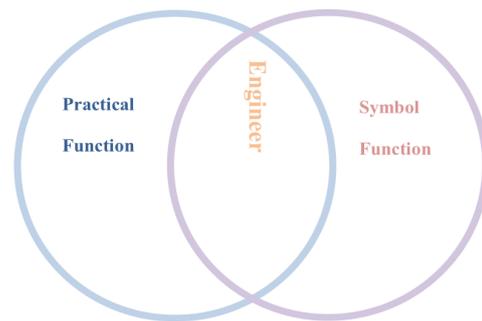


Figure 2 The ability that engineers master at the same time.

4. THE CULTIVATION OF DESIGNER

In "Graphic Design: Fine Art or Social Science?"[7], Jorge Frascara discussed new issues of aesthetics, ethics, and human values more deeply. At the beginning of the article, he points out 6 shortcomings of graphic design in terms of style, namely, excessive emphasis on visual structure in the aesthetic context, neglectation of applicability, omission of common types of graphic design, confusion of visual creativity and visual manipulation, avoidance of related functional problems, and overlook of public attitude and audience influence. He believes that in the process of design practice, design disciplines need to absorb

effective knowledge from social sciences and apply them. Excessive emphasis on beauty will weaken the focus of the design work, so that the information of the work can't be accurately conveyed to the audience. He enumerates a large number of cases to support the above problems of graphic design, such as Pelikan ink product advertisements designed by Schwitters, "two squares" designed by El Lissitzky, posters designed by Abburth for the Lincoln Film Festival, etc. Designers pay too much attention to the aesthetics of graphic design and ignore communication and social meaning, which hinders visual recognition and results in poor communication effects. Then, through the visual design related to the military equipment of the US military during World War II, he believes that the purpose of the graphic designer's design is to play the role of advertising and persuasion. And whether the influence of advertising can be exerted to the greatest extent requires cross-disciplinary cooperation among market managers, sociologists, psychologists and designers.

Appropriate aesthetics and quality are equally important to graphic design. In a specific context, the role of specific "quality" should be examined and the relativity of quality standards should be clarified. Professionals, including designers, should receive feedback from the audience and put forward constructive opinions from a professional perspective to improve the quality of the design. On the other hand, when the design is made, it doesn't mean that the designer's work is completed. The beauty, clarity, or visibility of symbols re all basic design requirements, and a more important measure is how effective it can be. The most important thing in graphic design is to establish communication and contact with the audience.

5. CONCLUSION

The effectiveness of design requires designers to master and integrate three kinds of thinking abilities, namely, the ingenious conception of the product, the internal logic of the product, and the use of design to create people's daily desires and abilities for objects. If consumers can play a role in the process of product's design concept formation to form a new pattern of "engineer-designer-consumer" ("Figure 3"), it will be conducive to a better fit between the product and the entire link of production.

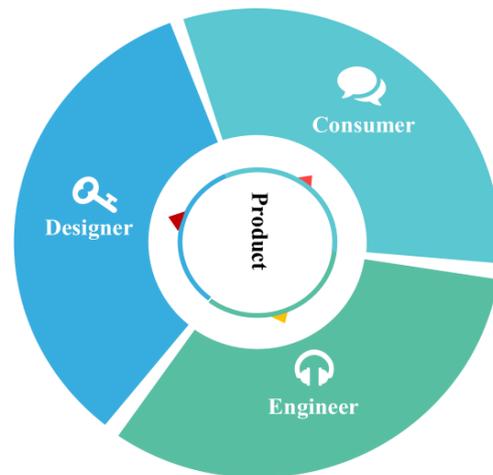


Figure 3 Diagram of the relationship between engineer-designer-consumer and product.

The designer's attention center shifts from visual elements to interaction with the audience, taking the audience as an active participant in information construction. On this basis, the existing graphic knowledge can no longer meet the requirements of the career development of students majoring in design, the education of psychology, linguistics, sociology, computer science and marketing and other related disciplines should be increased. A qualified designer should have solid professional quality and a sense of social responsibility including aesthetic perception and moral sense.

AUTHORS' CONTRIBUTIONS

This paper is independently completed by Ke Wang.

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