

Functional Inquiry within the Perspective of Design Criticism ——Take the Practicality and Design of the Power Strip as an Example

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Abstract: Functionality is a criterion for judging the value of design and is prevalent in all kinds of design criticism. The direct object of design criticism is the design work, and design practice is the basis of design criticism. Design criticism must be based on an in-depth analysis of the design work, and a deep feeling and accurate grasp of the work is the starting point for design criticism. By analyzing the unreasonable problems that exist in the application of the design of plug-in boards in everyday life and finding actual cases where the unreasonable problems have been solved, the theoretical value of design criticism can be reflected, with a view to promoting the healthy development of design creation.

Keywords: design criticism; design; function

1. Introduction: Overview of design criticism

Criticism is generally referred to as the judgment made by the connoisseur of art about the quality and meaning of work at a deeper level, especially its value. Any artistic creation visually presents its image to others, leaving a rich space for interpretation. Northrop Frye held the view that "criticism is to art what history is to action and philosophy is to wisdom: a rhetorical imitation of human creativity, which itself does not speak." [1]

Any art criticism is therefore a reinterpretation of the artist's and designer's work by the critic. The Geneva School of Criticism critic Georges Bly once stated in *Critical Consciousness*: "Criticism is an imitative repetition of an act of thought which does not depend on a whim. To begin anew within the self the 'I-thought' of a writer or philosopher is to rediscover his way of feeling and thinking, to see how it arises, how it is formed, and what obstacles it encounters; it is to rediscover the meaning that one's life, organized from self-consciousness onwards, has." [2]

Although the Geneva School's definition of criticism does not apply to all criticism, and in particular to design criticism, the important basis of criticism can be found in this. However, an important basis for criticism can be found in the fact that it is based on the object of criticism. In this sense, we define design criticism as the whole process by which users and evaluators of design works make comprehensive judgments and evaluations of the meaning and value of the works in terms of function, form, and ethics, and put these judgements into various media to express them.

The object of design criticism is specific design work, design thinking, and design activity, which is guided by a certain design criticism theory, through three stages of contact with the design product, integration, and transcendence, to achieve the description of the object of criticism and evaluation of design activity. There are three types of design criticism: theoretical criticism, applied criticism, and practical criticism, and the relationship between the three is interdependent and interpenetrating. [3] In the context of art, criticism generally refers to the judgment, especially the value judgment, made by the art connoisseur about the quality and meaning of the work at a deeper level. Such criticism is necessarily based on the object of the criticism and attempts to solve a design problem that exists.

The essence of design criticism is to indirectly criticize the various problems in life through criticizing specific design works, therefore, designers need to understand more about society, be familiar with daily life, analyze problems in depth and find out the root causes of various problems in design works. Only in this way can the theoretical value of design criticism be reflected and the problems in design practice be identified and solved, thus promoting the development of design creation. [4] The purpose of design criticism is to solve problems, such as the relationship between art and industry, form and function,

beauty and utility, and design and culture with each other, and to consider improving the quality of design products as the highest goal, and to use this purpose as a tool for design culture. Thinking in terms of the characteristics and laws of the design itself is a basic principle of audit evaluation. Functionality, economy, aesthetics, and sociability are some of the main criteria by which the value of design is judged.

2. Functionality - one of the criteria for judging the value of design

The Dictionary explains function as "the efficacy of a physical object, its effect, mainly the convenience of a product and its usefulness." This is a comprehensive, complex, and broad criterion. Any design product in circulation must have a certain function, called use value, which is a fundamental attribute of the product. Once a design is introduced into circulation or the consumer market, its value is largely determined not by the designer, but by the recipient of the consumption. Function (use value) is the fundamental value of a product's existence. [5]

Functionality means that a product has a particular effect and performance that is pleasing to the user. For the designer, functionality is the first principle of product design. The purpose of designing a product is to meet the needs of people's lives. Since stone tools in primitive societies, man has been experimenting with the creation of things, creating a wide range of tools and objects to meet his needs for better survival and living. Functionality is not the only goal of product design, but it is the most important purpose of product design and production, which is to meet people's needs for certain functions. Functionality is the most basic attribute of a product, is also fundamental to its value, and is a key issue that must be considered in the design process. A product is something that satisfies the needs of life, and therefore its effectiveness is the most crucial criterion for judging the value of a product.

In the 1870s, the Chicago School stressed the dominance of function in architectural design, pointing out the master-slave relationship between function and form. Its representative, Sullivan, put forward the aesthetic principle of functionalism: "form follows function", which proposed a new development direction for modern design. Although this theory originated in the field of architectural design, it is also widely used in many aspects of art and design, such as visual communication design, product design, interior design, and animation design. Each area of design has a different focus but all emphasize the functional and practical aspects of design to varying degrees. In short, design is ultimately about meeting the practical needs of the consumer, whether it is visual communication design, interior environmental design, or industrial design, the key point is to meet the 'functional needs of the consumer.

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3. Unacceptable "anti-human design"

The use value of the design product can meet the various needs of people in life to bring convenience and satisfaction to people's daily life. The functional performance of the product meets the needs of people's survival, can make people feel happy, and make the user experience a functional beauty, to meet the needs of the user. On the contrary, if the design of a product conflicts with human needs, it is not fit for human purposes and may even make it difficult for people to use it to the point of wondering if it is an "anti-human" design product, which may make us intolerant over time.

3.1 "Anti-human" socket design

Wall sockets are an extremely unobtrusive but important part of any home or public space renovation. It is only after the installation has been completed that one may realize, with the benefit of hindsight, that a small choice or a forced choice can lead to great inconvenience for the user. It is the design of the sockets that we often deal with in our daily lives, but in practice, they do bring a lot of inconvenience to people's lives, not only failing to meet their multi-level needs but also making them feel extremely

unpleasant. The sockets are designed in such a way that they can be used alone, but if you want to use 2 of them at the same time, it is almost impossible to locate the two sockets too close together. This historical design legacy is a real-life problem. (Fig. 1)



Figure 1: The “anti-human” socket designs often seen in everyday life

3.2 The “anti-human” plug and socket design

In addition to the frustrating wall sockets, there is the equally incomprehensible and uncomfortable design of the long-wire plug. When the number of appliances used in the home or office increases, a single wall socket is not enough to meet the needs of people, and this is where the long cord plug comes into play. The role of a long cord plug is to meet the demand for multiple charging jacks for electrical appliances and to extend the range of wall sockets available, so a good long cord plug should meet at least two conditions: one, it has multiple charging jack locations; and two, it has a long enough extension cord. With a good analysis of the requirements, we analyze the “anti-human” plug designs that make it difficult for people to adapt. First of all, it is clear to perceive that the extension effect of extension plugs is generally attainable due to the length of the adjustable wires. The other point is undoubtedly where people often find it hard to tolerate: since a large multi-hole plug already has a lot of holes, why do people still encounter a lack of charging holes in the process? It is not difficult for users who have used them to find that the same problem is found in long-line plugs - the spacing between two adjacent jacks is too small, making it impossible to use the two adjacent charging holes at the same time, sometimes even requiring a reasonable layout of the “w” type to make full use of a plug. Sometimes a “w” shape is required to make full use of all the charging holes in a plug. (Fig. 2) The design of this very small product has undoubtedly been the subject of constant complaints from users.



Figure 2: The anti-human plug and socket often seen in everyday life Design

4. Design criticism's recreation of design value

The object of design criticism re-creation is the design work. Practical value is the most basic value in the art value system and is also an important expression of economic value. Design should first meet the practical needs and secondly meet the aesthetic and psychological needs. The design of the plug-in board is as rational as possible if the designer is well thought out, rigorous and humane before the design activity is carried out. For this reason, the designers have recreated the structure of the original plug-in boards to make them more user-friendly, to meet the need for multifunctionality, and to avoid the unnecessary fuss, so a variety of plug-in boards have been created.

4.1 Wall inserts with improved spacing

When something is causing users to agonize over it for too long, clever and thoughtful designers often go looking for a new solution. Updates to wall plugs follow. (Fig. 3) To solve the old problem of only one of the 2 jacks being used due to the small spacing between the plugs, the first solution that comes to

mind is to widen the gap between the two jacks, based on the technical conditions that support it. On the expansion of the two jacks spacing approach, in addition to the original positive alignment of the combination based on a wider spacing, but also through the angled treatment of the way to make the two jacks position spacing increased. With the increase in smart products, people are using various electronic products more frequently, and the demand for USB jacks has also become more, there are also wall plug boards with USB jacks.

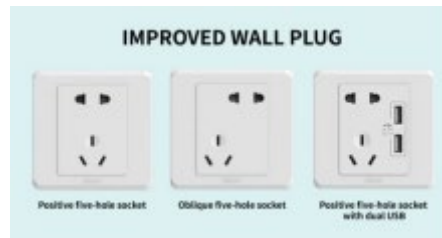


Figure 3: The new upgraded wall socket

4.2 Structure-optimised plug-in boards

The reorganization of the plugboard structure (Fig.4) has led to the reappearance of the rotatable vertical plugboard. The plug-in board is shaped like a desk lamp and has a hierarchical design, with each level consisting of several plugs, which overcomes the problem of cross-exclusion between plugs and allows multiple plugs to be inserted and adjusted by rotation during use. Each level is equipped with a safety switch to control the level, taking into account that each level may not be used at the same time. In addition, the base of the vertical plug is fitted with a cable storage box, which makes it easy to store the cables when not in use. In short, the design of this plug-in board is not only convenient and beautiful but will also be appreciated by many consumers in the home consumer market. It will also add economic value to the product manufacturer while addressing the practical functional requirements of the consumer.

The shape of the plug-in board also has considerable aesthetic value, shaped like a string of sugar gourds, and each "hawthorn" can be plugged into either a two-hole power plug or a three-hole power plug, so the multifunctional plug-in board overcomes the problem of space congestion of traditional plug-in boards, making it more convenient and easy to apply. It also features an intelligent dual USB socket, in line with the increased demand for USB sockets. The plug-in board is no longer a simple plug-in board but is also aesthetically pleasing when left unattended. Its practicality has been maximized and its aesthetic value has been widely appreciated by consumers. The design is a perfect blend of practicality and aesthetics.



Figure 4: New plug and socket

5. Conclusion

Design is the creative activity of using various artistic means to bring about a pleasant and appreciative state of mind (aesthetic and decorative effects) for users and customers alike, a pleasant operational application (overall design and ease of use), and the realization of certain purposes through the form of the product. Our elaboration of the scope of design criticism is essentially a presentation of the relationship between design and people, design and nature, and design and society. The relationship between design and people is constantly changing as the productivity of human society evolves. Good

design is not just about optimizing aesthetics and function, but about achieving a mutual balance between the two. Design criticism, on the other hand, can lead to a deeper reflection on the development trends of the design world and the problems of human existence, thus revealing social contradictions, arguing with delusions, and promoting the flourishing of design.

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